



2808904139



# **Syntactical Analysis on Shopping Interfaces**

## **The case of Attica department store**

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## ***Abstract***

The focus of the present study is concentrated in the analysis of department stores, a project based on the examination of Attica department store, in Athens Greece.

Great attendance and behavioural patterns in the store triggered the present project. This study examines how space participates in the successful operation of the department store. It investigates in what ways and to which extent the spatial layout combines the following two opposing elements of department store operation: Sustaining visitors within the layout to perform search and distributing them effectively across the space. Moreover the study attempts to examine how the store layout dictates and is dictated by social structure. Finally it examines the effect of this interaction onto behavioural patterns.

This report performs syntactic analysis using space syntax in order to identify the structure of a popular shopping interface in respect to shopping activity and cultural / social experience.

The study shows that the layout deals with the spatial paradox of department stores through the construction of a shopping interface which involves the relation between search interface (shopping activity) and exhibition layout (cultural activity).

For his insightful aid the author would like to address her special acknowledgments to the supervisor, Prof. Alan Penn. In addition, for their valuable support throughout the academic year, the author would like to express her gratitude to Dr. Rosamund Diamond, Dr Laura Vaughan, and Prof Bill Hillier

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## ***Ch.1 Introduction***

A building is a physical object with both functional purpose and cultural meaning. In addition to that buildings generally, have a peculiar property that distinguishes them from other artefacts. Their spatial ordering reflects the ordering of relations between people; therefore buildings are established as social objects. (Hillier 1984, p.2) In this respect, a building is a domain of knowledge, a certain spatial ordering of categories. It is also a domain of control, which forms and at the same time is formed by boundaries. (Hillier 1984, p.146). These two perspectives respond to a spatial structure that embodies a social arrangement, both properties supplement each other for the definition and operation of a building.

This report takes on these considerations and investigates the department store as a particular type of building, a topic which has received much attention and caused controversy amongst designers, sociologists and media. The study examines the relation between spatial and social arrangement within consuming environments in an attempt to explain the increasing interest which is reported on department stores and also enhance current notions of consumerism with a viable example.

The motivation for a study on large retail establishments was given through the example of Attica department store in the city of Athens, Greece. The department store has recently opened its doors to the public and since then it has been very successful: shopping travels are organized from various parts of Greece and abroad and large amounts of tourists and visitors arrive daily in the building as part of their excursion. Moreover, Attica customers infest the city centre, in the streets, cafes and restaurants or the underground, traced easily through the trademarked shopping bag of the store.

Great turn out at the store launched a systematic observation on behavioural patterns of customers and visitors within the retail establishment. This set off the examination of the spatial dimension that contributes to the great attendance and successful operation of the store. It investigates the spatial attributes which construct an effective search interface in commercial spaces enabling a certain social ordering of categories and relations within it.

The study was cross-referenced with the examination of similar shopping spaces for a comprehensive analysis on the relation between spatial and social arrangement. Also, recent theories of consumption and consumer culture enriched the speculation on great attendance in department stores. These triggered the examination of consuming environments from a cultural and sociological perspective. The study investigates the ways through which space mediates the transition from every-day shopping practice within a retail store to an interplay of reconstituted identities staged in an eventful cultural field of social interaction.

The present study aims to construct a syntactic model of Attica department store examining the order and structure of the layout. Through syntactic analysis the research identifies and analyses the spatial elements and their relation to each other for the creation of a coherent commercial system. Syntactic examination enhanced with information on space use and patterns of movement gives a fruitful insight on the spatial and social operation. For this purpose space syntax theory and methodology were applied throughout the entire study of Attica department store.

## ***Ch.2 Literature Review***

This chapter presents a set of theories and ideas that have influenced the current study. These include theories on consumerism and shopping, culture, social organizations and department stores. Space syntax theory plays a significant role throughout the entire study by not just being a part of the literature review, but also by providing a theoretical framework upon which the current study was founded, organized and conducted, and is therefore commented throughout the text.

“Consumerism responds to an active form of relationship (not only to objects, but also to society and to the world) a mode of systematic activity and global response which founds our entire cultural system.” (Baudrillard 1996, p.217)

Consumerism and consumer culture - advertising, shopping, marketing- cover a vast range of social life. As Baudrillard argues consumption operates in multiple levels, therefore its definition lies in its diversity as a system of signs, a system of exchange, a system of ideological values, a social function, a structural organization, a collective phenomenon. All these claims stem from the primary notion that consumption is a structure in itself and not simply something that individuals do in order to find enjoyment, satisfaction and fulfillment as conventional wisdom manifested. (Baudrillard 1998)

This argument puts the social structure embedded in the notion and practice of consumerism straightforwardly. Baudrillard argues that the sociological approach towards consumerism demands a shift from the superficial level of conscious social dynamics to the unconscious social logic of signs and codes which form a system of social hierarchy, a system of classification. Bernstein’s preoccupation with classification and frame of objects deciphers the operation of a system and helps on the interpretation of the communication mediated through objects (Bernstein 1980, p.141). According to Bernstein classification gives information on the structure of relationships in space, whereas, framing tell us about the structure of relationships in time (Bernstein 1980, p.143). Classification is embedded in the strength of the rules of exclusion which control the array of objects in a space. As Bernstein claims different strengths of framing and classification result in divergent social and spatial structures; the stronger the rules of exclusion, the sharper the boundaries between spaces and the stronger the hierarchy (Bernstein 1980, p.141).



These ideas are enhanced in Social Logic of Space and refer to the construction of social and spatial systems. According to Bill Hillier (1984 , p.144), experience of and association with space is different in the spatially independent but comparable entities, the transpatial systems, from the spatially continuous systems. Elaboration on the ways these notions construct shopping interfaces is examined in the Analysis chapter.

Bourdieu comments on classification by defining it as a system of power relations governed by derivatives of consumption, and pinpoints that “minute distinctions of taste become the basis for social judgement.” (Bourdieu 1986). The use of this social system (emerging through the manipulation of the system of objects as codes and rules) positions individuals in relation to one another. According to Baudrillard (1998, p.61), consumption is what distinguishes people either by affiliating them to one’s own group or by marking them from it. Consumerism enables a process of producing aspirations and nourishes needs that grow from competition (Baudrillard 1998, pp.63-65). A collective participation is developed against a background of generalized contest; in this set, each person’s individual motives, actions, desires, encounters and information, - “personalization” being the term used by Baudrillard (1998, p.90)-, takes place. “It is this exchange of differences which clinches group integration”, (Baudrillard 1998, p.90) incorporating the notion of transpatial groups that is introduced in space syntax theory and studied thoroughly in respect to shopping spaces.

The definition and understanding of the deep structural elements that constitute consumerism undergoes a twofold analysis: a) as a process of signification and communication - a system of exchange where structural analysis is appropriate and, b) as a process of classification and social differentiation in which signs-objects are ordered as values in hierarchy- strategic analysis distribution of social signifiers. (Baudrillard 1984, pp.63-65). Reference on the second process of social signifiers and institutions links consumption to other class institutions such as education, argues Baudrillard. Cultural goods, like material goods form a similar system of classification amongst individuals; a system based on social hierarchy and increasing level of discrimination. “Consumption no more homogenizes the social body than the educational system homogenizes cultural opportunities. It even highlights the disparities within it.” Baudrillard argues (1984, p.40).

Miller in his theory of shopping takes on an anthropological and more assertive approach . His claims revolve around the idea that there is an analogy between

objects-subjects involved in consumption practices and objects-subjects of devotion. For Miller, shopping is a ritualized event which expresses the fundamental human quest for love and affection. Within the shopping experience and practice, commodity takes on the image of the gift which characterizes the feast, a sacred symbol or a memorial, things to celebrate or to die for, (Miller 1998, p.130). According to Miller, the relationships established reach a religious affair, where sacrifice, devotion and love are the essence, the pursuit of shopping activity (Miller 1998, pp.111-120). Objects from a symbolic perspective entail values which may often place them amongst other alienable things, things sacred or profane. Confronting them as such and making a possession, - which implies an action of violence- of these objects actually represents the first stage of sacrifice (Miller 1984, p.130). Consumption as a process achieves the inalienability of objects. It objectifies the system of objects through exchange and establishes the ground upon which new symbols arise. For Miller this process entails the emotional need for affection and governs our association with objects of consumption.

All theoretical understandings on consumerism stated above recognize consumption as a system in which, as such John Fiske argues, commodities are goods to think with (Fiske 1989, p.30). The notion of “things we think with”, according to the space syntax theory, is located in the realm of the social knowledge of abstract principles, codes and rules that shape our space-time behaviour. As such, the system of objects becomes a configurational conjecture. Configuration is a relational scheme and even though we may experience it intuitively, we find it difficult to talk about it. Space syntax takes on the problem of non-discursive schemes and develops a theoretical framework for the description, analysis and understanding of configurations, a method which applies to both social and spatial systems. These give justice to the application of space syntax theory and methodology which was conducted for the purposes of the present study.

At this point literature review examines the department store as a retail type because its introduction and evolution changed shopping habits and influenced the very notion of consumerism. Nancy Bakes argues (reading the shopping mall city) that “Commerce has shifted dramatically from one where purchases were made on the basis of need from travelling merchants to one where shoppers contemplated purchases based on desire in their excursions to the stores”.

The department store is defined as an essentially large retail establishment located in the heart of downtown with a broad range of mass produced goods that aimed primarily at middle classes. It dates back to the 19th century and has reconstructed urban life, making a passage to modernity and giving rise to modern femininity (Rappaport 2001, Clausen 1985) . As soon as progression in manufacturing methods enabled a quicker and easier production

of goods, and advancement on transportation facilitated travels, the department store started gaining ground over small speciality shops. As in the case of Harrods, England and Bon Marche, France, preexisting buildings offered the chance for large stores to operate in central city locations. The conversion of preexisting buildings into department stores gained ground and the shopping centre intruded city centers and became accessible to a broad range of population. Department stores became a landmark of cities and destination in themselves.

The development of large retail stores within the city not only manifests the “transformation of a sales-box to an illusion factory” (Schreiber 1996, p.93). It also declares the establishment of department stores to an institutional building. Ketchum has stressed this matter early saying that “thanks to the growth of cities an increase in popular buying power and a demand for standard merchandise, department stores became a national institution” (Ketchum 1957, p.11). Department stores interiorized the traditional open-air street market, “the original site of self-celebration” (Schreiber 1996 p.303). Commercial activity was concentrated within an enclosed space of competition, shifting the relationship between shoppers and goods and reestablishing consumer society and notions of consumerism at a very fundamental level.

Space syntax theory and methodology have examined several places of consumption in great detail. These projects influenced and enhanced the present study in the understanding of shopping spaces. John Peponis stresses out that shopping interface is located somewhere between warehouses and museums and evidently, the layout bears resemblance to these types of buildings. In warehouses, objects are organized in such a way as to facilitate search whereas in museums objects are displayed in such a way so as to enable the transition from looking to gazing, from object to spectacle. Spectacle and search are often separated creating an efficient retail space .(Peponis, 1988)

The case of large store is more complicated because as Peponis claims the department

store aims to compromise two opposing elements: on one hand it needs to manipulate the vast variety of the merchandise, make sure it is accessible and within reach. On the other hand this complicates and inhibits the projection of single items. As Peponis says this is probably the greatest weakness of large retail spaces: the fact that they can not reproduce the atmosphere of small shops, where organization of items is in a much smaller scale and products not of such great variety and diversity. Harrods Way-in department store (fg2.6-2.7) for which syntactical analysis was performed, focuses on the ways through which the overall spatial configuration overcomes the problem of the spatial arrangement of items.

Space syntax study on Selfridges investigates the spatial paradox around which design of large shopping environments is revolved. Focus of that study examined the department store as a demanding layout based on the effective combination of two contradicting spatial features: the first being achieving attraction of visitors within the building and successfully distribute them in all areas and levels; the second, adopting an internal structure that creates a pertinent disorientation that sustains visitors and enables browsing throughout the store. Report on Selfridges examined, through that perspective, the relation of spatial properties to behavioural pattern, display and arrangement of items as well as profit.

Whereas research on furniture store Ikea using space syntax methodology investigates the particularity of the spatial layout of a catalogue shop. It investigates the ways space mediates interaction between the merchandise and customers' experience of space, behaviour, movement and vision, adding insightful information in the knowledge on coercive shopping interfaces.

Finally the study attempts an alternative reading of department stores that stems from Max Hollein's argument that "rituals and characteristics of shopping are not far removed in their effect from those of the art world." (Hollein 2002, p. 203). A review on the relation between shopping spaces and culture, which is examined in "Shopping: A century of Art and Consumer culture" provides a broad range of examples of works by Marcel Duchamp, Andy Warhol and Jeff Koons (see fg in the Appendix). The idea is

that above all “objects and methods of representations in commercial environments construct an aesthetic statement” (Hollein 2002, p.203) and participate in the interface between the observer/consumer and the goods/display.

Pop Art takes this further and attempts an artistic statement upon the notion that overall material culture, its ideas and values are based in consumption. Baudrillard regards that pop art establishes a commodification of culture by being homogeneous with the artificial and the manufactured. This process captures the object when it stops being in use -a banal object- and starts to signify -this is the moment that it ceases to be banal- (Baudrillard 1998, p.115). However he argues that “for a painting to be ceased to be a sacred super-sign it is not sufficient to change the content of the pictures, it is the structures of the production of culture which decide the matter” (Baudrillard 1998). The time definition is encapsulated in the statement made by Andy Warhol, who says: “Look at a department store today, open the door a hundred years and you will have a Museum of Modern Art” (Warhol, 1985). Carol Duncan’s reports on museums take a standpoint over this matter, declaring that “in the liminal space of the museum everything and sometimes anything may become art, including fire extinguishers...” (Duncan 1995). Despite the controversy caused, pop art has celebrated popular culture and has dramatically reformed material culture’s perceptions. Evidence of this shift are traced in the design, planning and decoration of stores who out of need from competition or ambition, reform commercial enterprises from search interfaces to exhibition layouts.

The dissolution of shopping spaces, according to John Fiske marks the successful operation of a consumer system and he elaborates his argument by saying that commercial spaces demand ambiguous boundaries between leisure and work, public and private, inside and out, desire and satisfaction (Fiske 1989).

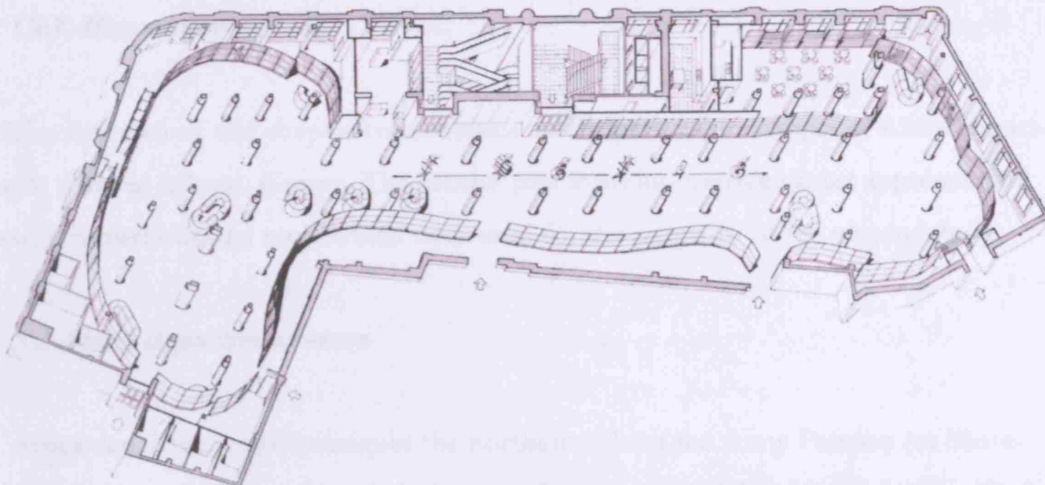


Fig. 2.6 Harrods Way In floor plan



Fig. 2.7 Harrods Way In arrangement of items

### **Ch3. Research methods**

The first part of this chapter concentrates on the particular example of Attica department store in Athens, Greece. The second part introduces space syntax approach and research methods and tools which were used for the purposes of the present study.

#### **3.1 Attica department store**

Attica department store occupies the northern side of the Army Pension (or Shareholders') Fund Building, the refurbishment of which created City Link complex. City Link complex is located in the heart of the Greek capital. It is conveniently situated between two Metro stations -- those of Syntagma and Panepistimiou -- and strategically placed amid three major hotels (the Grande Bretagne, and the Grecotel Group's King George II and Athens Plaza), within walking distance of the Greek Parliament and the National Gardens, as well as some of Athens' most well-known archaeological architectural and cultural buildings such as the Catholic Church and Athens University.

The building was originally designed by the architects V. Kassandras, L. Bonnis during the late 20s-early 30s (1928-1938) and was one of the earliest examples of architectural form that, apart from new classicism features, carried modern movement influences as well.



Fig. 3.11 The Army Shareholders' Fund Building (1957)



Fig. 3.12 Illustration of Zonars café



Fig. 3.13 Illustration of an event in Plaza Theatre



The building consists of a solid built form, covering an entire urban block, spread along the surrounding streets in a seven-storey structure, leaving an enclosed open atrium in the core of the city block, accessible from three entrances adjusted in every side of the surrounding tissue. Originally the building lodged commercial and leisure facilities, that is shops, café and a cinema, as well as Military Fund services, government services and offices situated on the upper levels of the settlement. A lot of facilities that were situated within the Army Pension Fund Building, gained a reputation that exceeded the capital's expectations and became a trademark of leisure and social interaction throughout the sixties of the entire Athenian lifestyle. Redevelopment plans placed retail facilities and offices in the street level. Offices as well as health centers are situated in the upper levels. The aimed of this project is to restore the premise to a state-of-the-art Commercial District combining office, retail and leisure/entertainment activities in an attempt to reincarnate the old spirit of Athenian bourgeoisie.

The department store is accessed by three entrances from the street level, two of them located in Panepistimiou street and one in Amerikis street, however no access is disposed from the atrium. All entrances lead to the ground floor directly and from there to all the others.



Fig. 3.14 Map of Athens (road network of the City Link area)



The basement floor contains mainly footwear and travel equipment. The ground floor contains perfumes, toiletries, accessories, and jewellery. First and second floor contain mostly men's retail lines. The first floor is oriented towards formal clothing, including suits while the second towards casual. Third and fourth floor contain women's fashion. The third contains casual lines, and seasonal clothing (for example during summertime swimsuits and swimming accessories were provided) and the fourth formal clothing as well as accessories, underwear and nightwear. Fifth floor comprises children fashion and athletic wear. Last, the six floor, contains home ware and household objects, kitchenware and office equipment. It also provides a multiple purchases cashier and a restaurant. The largest amount of shops is design labels and high quality products. Basement, ground, first and second floor cover the biggest part of the northern building of former Army Pension Fund building, whereas third, fourth fifth and sixth floor cover the entire northern side and the southern- eastern and part of southern side of the preexisting building.



Fig. 3.15 City Link atrium

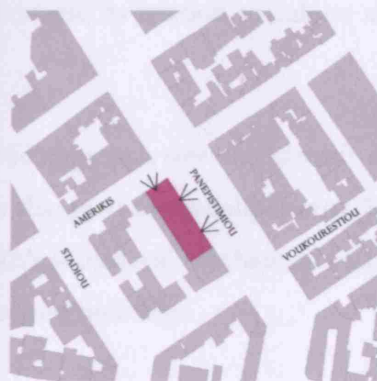


Fig. 3.16 Attica and City Link complex



Fig. 3.17 Attica view from Panepistimiou street

### ***3.2 Space syntax approach and methodology***

This chapter briefly introduces space syntax approach and research methodology. . It defines and explains the aim of space syntax methodology and introduces the tools and measurements upon which space syntax research is developed as well as observation techniques that embody space use.

The syntactic approach widely known as Space Syntax was initiated by Professor Bill Hillier in the Bartlett university in 1975. The aim of this approach is to develop an objective and systematic way of describing, analyzing and studying space and spatial patterns, from cities to buildings. It involves four stages of thinking about space:

- a. identifying spatial elements, -which is the stage of representation (breaking up space into elements)
- b. analyzing the configurational relations amongst the spatial elements, -which is the analysis stage
- c. identifying common patterns, - which is the genotype phase and,
- d. identifying the common themes by making a cross cultural comparative analysis of spatial configuration and its relation to culture and social behaviours, -which is the theory stage.

Through the syntactic approach one can identify and elaborate on the structure, that is on the internal laws that govern spatial patterns. Systematic description and analysis of spatial patterns enable a retrieval mechanism in acquiring information of the social aspect of cities, towns, and buildings.

A number of methodological tools have been developed for the description of space. The most elementary identifies the boundary graph. Commonly and extensively used, the graph is a way of drawing any set of relations between elements: relations of kinship, between positions in an organisation, etc. Each element is represented with a node and the relation to another element is symbolized with a line. The application of graph in buildings depicts either permeability or adjacency relationships between a set of spatial elements. The graph is used to clarify the structure of a room, a building etc. Setting a root for the graph and then lining up all the spaces directly connected by lines one level at a time.

The axial map identifies the fewest and longest straight lines of sight and access which cover the system and pass through every convex space.

Integration measures the degree to which each line is present on the simplest routes (fewest changes of direction) to and from all other lines. Normally integration is measured for each line in a system in respect to all other lines. According to the range (radius of the network of lines) provided the measure of integration is adjusted. For example, Integration R3 restricts the measurement of routes from any line to only those lines that are up to three lines away. This gives a numerical value and stresses the localized importance of a space for access within a particular part of a building or urban area.

Once a building plan is reshaped to an axial map and the values of the various measures have been calculated for each line of the map, then it is possible to use the numbers describing properties of the way the network of spaces is connected together to form a system as a means of investigating the effect of spatial patterns. Patterns of movement, occupancy and space use are correlated with the values and enhance the spatial aspect with human activity.

### ***3.3 Observation techniques***

Observation techniques provide research the ability to retrieve information when it comes to the objective properties of the built environment and its use. Observation data are collected systematically and the results are cross referenced to support and enhance the syntactical spatial analysis. This enables a fruitful overall appreciation of a building or settlement in terms of behavioral patterns within the examined spatial properties.

Gate counting is the workhorse of observing techniques. It counts the number of people crossing a space (entering or leaving a building, crossing a street) within a specific amount of time. A number of different categories can be counted at the same time.

For the case of Attica department store observation took place between the 10th and the 29th of June 2006. Observation captured the flows of movement within and around the City Link complex. Even though parts of the site are still under construction, the City Link complex operates as a cut through for passengers. Gate counting was also

conducted to record the flow of movement from and to the building on all access points, as well as flows of movement within the interior, main corridor, main and secondary staircases, and lifts. It also differentiated categories of visitors' occupying the store in order to identify the visitors' profile. The set included

- Female Attica customers
- Male Attica customers
- Female non-Attica customers
- Male non-Attica customers
- Female non customers
- Male non customers
- Tourists

For the definition of these categories non customers were browsers who entered and/or left the building without committing to shopping, customers referred to shoppers who entered and/or left the store carrying shopping bags from other stores, and Attica customers who entered and/or left the building having submitted to a purchase. Those were identified by carrying the store's trademark shopping bag. This categorization was chosen in order to identify the profile of the visitors' to Attica department store.

Gates included all three entrances to the store, main and secondary elevators and lifts and main corridor. During observation demonstrations took place in the surrounding streets. Additionally, the third entrance from Amerikis street was closed sometimes in the evening. These facts do not alter the overall appreciation, although they are included in the study.

Along with gate counting, observation was enhanced with the technique of people following. This technique observes the pattern of movement from a specific distributor of movement in a building. This type of observation is useful for understanding how people are using a specific type of building, for example a shop. In the case of Attica a total of a hundred people were followed for ten minutes; their trace of movement, stasis and behaviour within the store were drawn. This technique along with gate counting enables the correlation between patterns of movement and spatial properties. It also gives substantial evidence on the relation between social and spatial configuration and triggers an overall discussion on the shopping experience performed within Attica department store.

## ***Ch.4 Analysis***

The rules governing a commercial space are identifiable within the spatial configuration of the layout of the store. The application of Space syntax methodology aims to draw up the abstract knowledge of how retail spaces work from the spatial properties of the configuration. This procedure takes place in three steps: Investigation of space as a pattern itself, followed by the analysis of the relations between parts of the configuration and the configuration as a whole and last by systematic observation of space use.

This chapter focuses on the rules governing the spatial property of Attica department store to identify the pattern.

### ***4.1. Spatial analysis***

A discrete system is an arrangement and can be defined as some set of initial randomly distributed discrete entities which enter into different kinds of relations in space-time (Hillier 1984, p.p.50-51). The basic forms of order in a spatial arrangement define the pattern. In the case of Attica department store the study attempts to identify this pattern.

The principles of the spatial organization upon which the layout and the arrangement of exhibits are deployed, remain common -with some variations- in all levels of the department, regardless of the items and the nature of the merchandise. The following analysis of the spatial features deals with the explicit characteristics displayed in this case study and offers a deeper understanding of the ways through which the spatial organisation of the shopping interface in Attica department store operates in sustaining not only a successful consuming environment, but offers a pleasant spatial experience in multiple levels.

The spatial layout of the department store is based on the hierarchical organization of a network of corridors, main and secondary, that run throughout the entire retail area. The arrangement of shops is organized according to the network of the corridors. The most important feature of the layout both spatially and socially is the long corridor, the main axis, which runs along the largest dimension of the building from one side

to the other. The main axis is accessible from both ends of the two moving staircases. The corridor acts like a spine onto which the shopping units are attached. All stores are headed towards a single common space. The merchandise on offer is placed alongside the corridor, allowing both physical and visual access to the shops. The corridor emerges out of the layout as the primary spatial feature operating on various levels by:

- a) linking the different and to the stores, b) controlling access and entrance from c) distributes movement to the secondary corridors, d) acting as a window display for the products on offer, e) attracting signal postings, visual stimulation and advertisement.

The corridor also stands out aesthetically through floor-patterned indication. From one floor to the other materials vary to demonstrate the principle central route.

The corridor network resembles a street urban network and in a way the main axes acts like the high street of a retail district. It attracts, channels and distributes movement of customers to the various shops. The corridor also acts as the threshold from the “public” route of movement to the “private” cell where the merchandise is offered. The organization of the arrangement of the exhibitory shelves is aligned along the corridor, permitting the contemplation of the product from the customer. In that way the customer receives visual information and communicates with the product without any commitment.

#### ***4.1a Typology of arrangement of products***

The arrangement of products into units is organized by brand, as the store distributes the merchandise according to the shops-in-a-shop philosophy. Generally, each shop - representing a brand- is spatially oriented and shaped through the use of relatively high selves, exhibitory furniture and display stands. The initial design guidance separated each unit from the neighbouring units. As it is discussed below the organisation obeys two types of organisation:

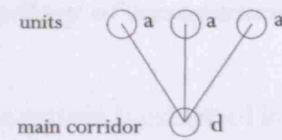
- The first arrangement (type A) is developed linearly, organized along the main corridor.
- The second arrangement (type B) is developed through the formation of clusters.

This arrangement is produced by the need to solve spatially the problem of array of shops within a layout. As it is observed in the floor plan illustrating the layout with no

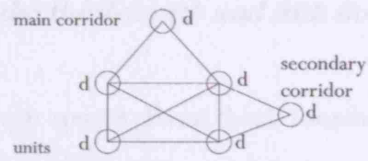
furniture, the spatial properties reveal a linear space and convex areas on the side of that space. The linear-type A arrangement is created along the linear space and cluster-type B arrangement in the large convex areas.

Type A arrangement (fg. 4.11) is a repetitive sequence of a one-cell space. The shape resembles the attributes of a room: one squared shape, with one edge open to the corridor and three edges creating the back side operating as partitions from the neighbour units. The main display cases of products are spread onto the three sides, whereas a sample of the products on offer lies in the front, facing the corridor. The front of each cell creates a permeable interface allowing visual and physical contact with the unit. Whereas the rest of the unit is usually built-in or furnished, creating the sense of a room. Entrance for both staff and customers is actualized through the central aisle. Fitting rooms and storage facilities are positioned in the back side of the unit. however they can not be detected by first sight. Fitting rooms' doors carry a head-to-toe mirror and face the main corridor. Type A arrangement communicates visually and physically with the central corridor and therefore supports and strengthens the spatial pattern that is established by the main axis.

Type B arrangement (fg 4.12) consists of four comprising different corner elements into one squared shape. In this configuration the different shops are joined in an entity and they form a core in the middle of the square. Each cluster is accessible from the main corridor that runs along the floor and three secondary routes, two of which meet the main aisle vertically and a third running in parallel. The boundaries of the spatial property of each corner shop are defined and organized through the arrangement of items. In type B more than in type A the stands exhibiting the products on offer replace walls and partitions. Most of these stands are removable, and permeable, like tracks for clothes. In effect isolation of the shops is not achieved as there is a higher level of permeability in comparison to type A organization. Apart from visual communication, physical communication is also permitted: shops within the clustering typology communicate with each other. Firstly through the central space that is laid out in the intersection of all corners which distributes flow to all units; also, neighboring units allow straightforward movement from one unit to the other without the intervention of a main or secondary aisles. The two fitting rooms are located in the central space facing one another and offer a joined service for all the shops constituting the cluster.



Type A arrangement



Type B arrangement

Fig. 4.11 Type A linear arrangement

Fig. 4.12 Type B cluster arrangement

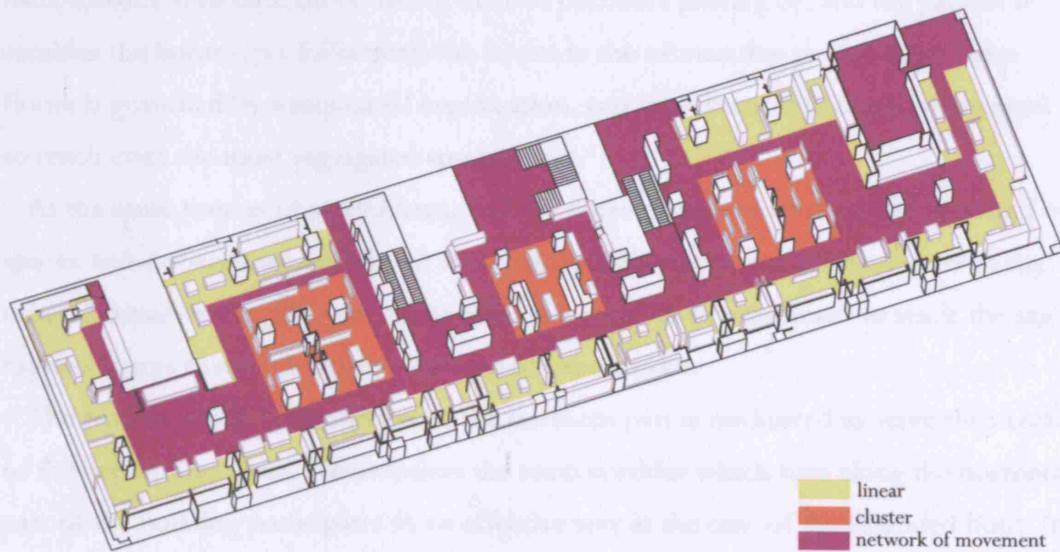


Fig. 4.13 View of the layout for standard floors according to arrangement



Fig. 4.14 illustration of typology within the layout third floor



#### ***4.1b Typology of arrangement on the third-fourth and fifth floor***

The same pattern is exhibited in all floor spaces. Even third, fourth and fifth (that extend to the east-south and south side) floor share the same typology that is displayed in ch.4.1a for the northern part of the building. The extended space is governed again by a central route that meets the main corridor vertically and an arrangement of linear units and clusters. It is worth saying that clusters in the extension are not joined in the same way. The principle of creating an all-access organisation is abandoned. All four units are back-to-back with each other, facing the two corridors passing by, and the pattern resembles the linear type. Effectively the layout in the extenuating part of these three floors is governed by a sequential organisation, and movement is strongly encouraged to reach even the most segregated spaces.

At the same time as observed brands all the more occupy more than one units and c-spaces and d-spaces are introduced allowing through movement from one unit to the other. Ultimately the goal is to create a flexible network of movement to reach the segregated spaces that are located in the end of the corridor.

The pattern which is identifiable in the northern part is readjusted to serve the needs of the department store. Nevertheless the main corridor which runs along the northern part of the building participates in an effective way in the case of the extended floor. It channels movement towards the south part of the layout.

However patterns of movement (fg in Appendix A3.4a, A3.4b, A3.4c) towards the south-east and south side were observed; apart from the structure the attractor-effect enables and attracts movement even in segregated spaces. This applied strongly to the fifth floor where the sports section is placed in the south-east and south side. Seasonal items which were also located in the south-east side of the fourth floor were attractors as well.

### 4.1c Display

The study has also registered the display and arrangement of products according to number of items exhibited. It has also registered the type of furniture used, discriminating between tall, built-in furniture, low-height furniture and removable rails in an attempt to give an overall appreciation of the image of every unit. These are graphically exhibited in figures (A.4.11, A4.12, A4.21, A4.22 in Appendix). As the figures show, low display of items units is registered in proximity to the entrance to the floor. The more one distances himself from access points to the floor, the more busy the display and the arrangement of products. Built-in furniture are positioned against the walls of the entire layout, whereas low height furniture are positioned alongside or vertically to the routes allowing permeability and visibility from the movement aisles. Easily removable units are used in the clustering typology more than the linear. As with the items on display case, the more one distances himself from the main access points the more the arrangement abandons formal, built-in furniture and prefers removable rails. Classification is achieved in the shallow in respect to the access points and becomes weaker in deeper spaces.

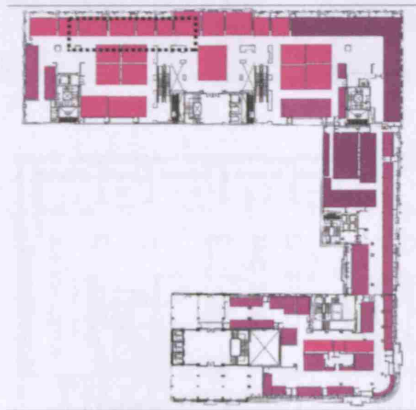


Fig. 4.15 Map of display fourth floor (see A4. 22)



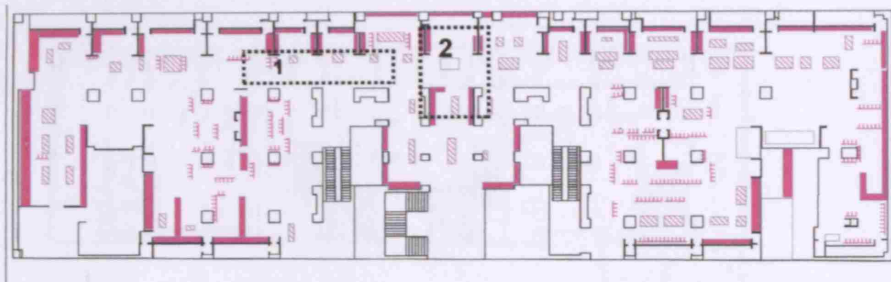
Fig. 4.16 Illustration of low-items on display (Fourth floor)



Fg. 4.18 Image 1



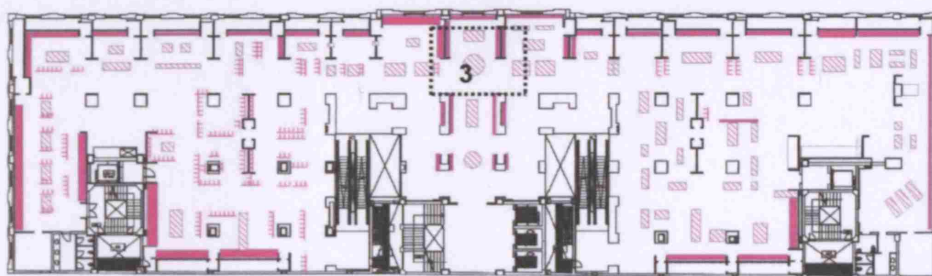
Fg. 4.19 Image 2



Fg. 4. 17 Arrangement of display for first floor



Fg. 4. 20 Image 3



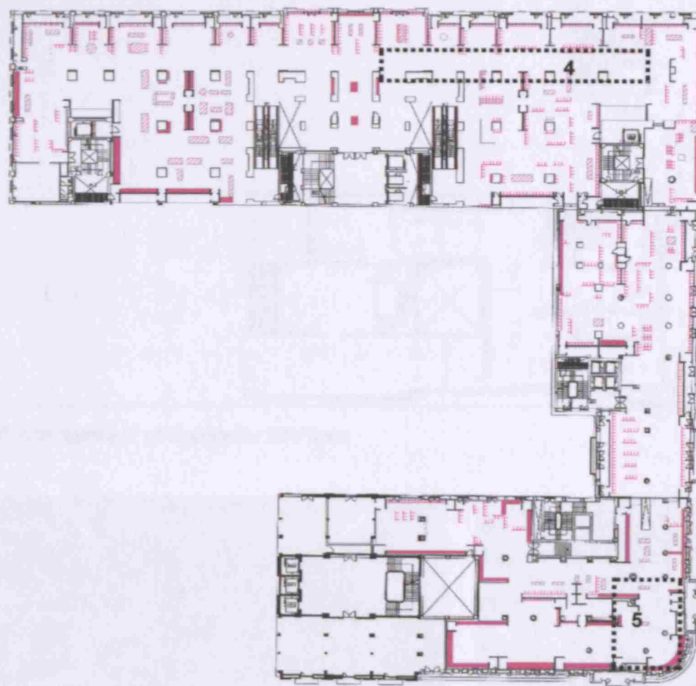
Fg. 4. 21 Arrangement of display for second floor



Fg. 4.22 Image 4



Fg. 4.23 Image 5



Fg. 4. 24 Arrangement of display for fourth floor



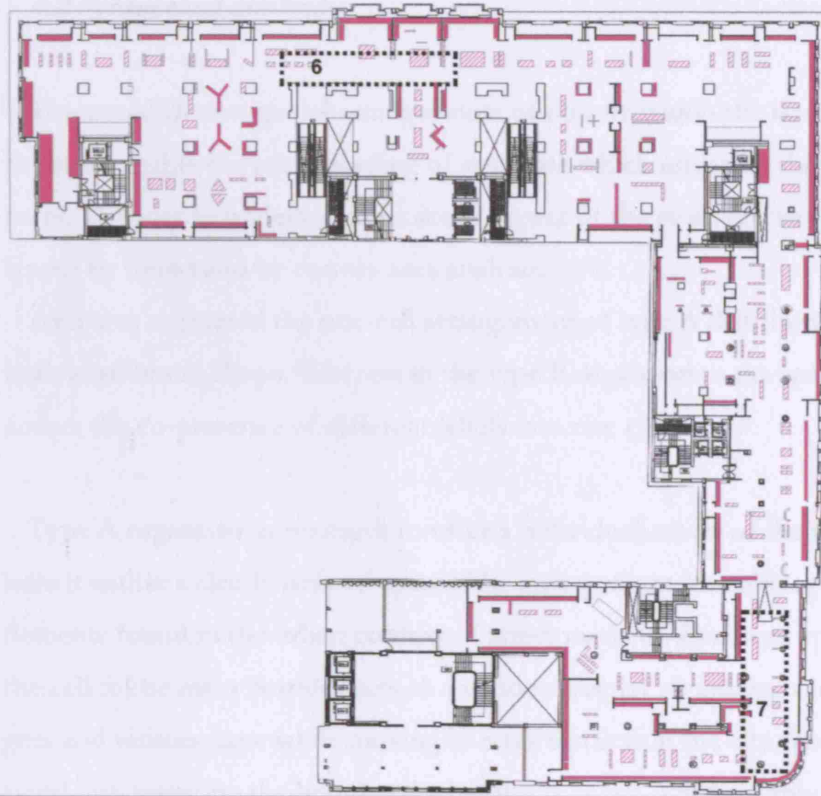


Fig. 4. 25 Arrangement of display for fifth floor



Fig. 4.26 Image 6



Fig. 4.27 Image 7

## ***4.2 Syntactical analysis***

The two different spatial arrangements of objects within the layout of the interior of the store enable the social reading of structure which underlies the shopping environment. In order to understand the social aspect of the store the research separated the layout by brand and by convex area analysis.

As it was registered the one-cell arrangement of type A distribution corresponds to individual brand shops. Whereas in the type B organisation the spatial structure welcomes the co-presence of different labels into one cluster.

Type A organisation manages to offer a individualization of the merchandise as it isolates it within a clearly defined space. The arrangement resembles patterns of retail settlements found in the urban context of street markets. The front space which connects the cell to the main corridor acts as a window display simulating the experience passengers and visitors have while moving in retail districts in the city. The display aims to stand out, featuring the brand and what it stands for. Through this arrangement each cell, and at consequence the social group it refers to, -the label- competes with the other within the same arena, just like every shop competes with the other in commercial city areas. This relates to one of the two fundamental views of the origin of society -and its structure- claiming that every social organisation and the buildings they construct result ultimately from the struggle of competition, defensive or offensive strategy.

Type B spatial arrangement represents a different kind of social approach in terms of retail distribution than type A organisation. The prevailing concept is through collaboration rather than competition. Brands reflect their identity through decoration and advertising within their unit, yet they share spatial properties with their opponents (fitting rooms) and permit flow from one unit to the other. This reflects the view that the spatial environments people construct emerge from their need to interact, transact and co-operate.

In type A fitting rooms are one step away from the corridor. The customer trying on the merchandise is exposed to “public eye”, his presence participates in the environment. The customer becomes a spectacle, and at the same time is exhibited in the

judgement of the passers-by. Alternatively, type B fitting rooms are located in the core of the cluster where the customer is offered the choice of either a more individualized view, or a more public view. In both types, staff are placed within the unit, however there is no specific location provided. Type A organisation exposes staff to the central corridor, whereas in type B staff are more out of reach. In both cases as it was observed during the study, staff members move freely within space and interfere in the social structure.

#### ***4.2a Syntactical analysis on variations on typology***

The different spatial arrangements, type A and B are reshaped when it comes to the case where one brand requires more than one cells/units.

In the linear arrangement, type A is rearranged; the expansion of a brand into more than one rooms equals visual and physical connection of the cells occupied. Access again is through the main aisle, however secondary route within the room were designed so as to permit movement within the shop and constant association with the merchandise. In effect when a customer moves in the main corridor and enters the shop the arrangement was modified so as to enhance movement throughout the whole unit. The shop is reformed to capture the visitor within itself. Movement is transferred from the main corridor of non-commitment, to the inside of the shop, from the “public” common domain to the “private” individualized domain. The stroller becomes a conscious browser of a specific merchandise. Access between the units increases movement flow and allows a more extensive interaction with the products. Example Nautica department.

In the case of type B arrangement, the expansion of a brand into the entire cluster means reforming the cluster type into one entity. Example of this in the fifth floor. Partitions are abandoned. The arrangement of the merchandise is organized in such a way as to draw movement to its core rather than its periphery. Display facing the main corridor is oriented towards the main corridor. Consequently this distribution is opening up in a more decisive way to the main channel of movement in the department.

### ***4.2b Justified Graphs***

The spatial pattern can be represented as a justified graph and this is done in order to clarify its structure. Space syntax theory identifies through justified graphs essentially two types of use of space, occupancy and movement. In the case of spatial arrangements noted within Attica we draw justified graphs in respect to the central passageway for the type of arrangement and its variations to identify space use.

Type A organisation is constituted from a-spaces only, dead end spaces, which are occupancy only. The variation produces a-spaces and c-spaces. C-spaces allow through movement and give the option of returning to one's original location from another point. The graph depicts a variation of the original arrangement, where new passages are introduced within units in respect to the main route.

The relations move from a non-distributed symmetric system of units in respect to the main corridor, where the units do not control permeability to the other, to a symmetric and distributed system.

Type B arrangement's variations concern the connections between the units in the cluster. All-ways access is restricted, however movement is still permitted throughout the entity. The alterations do not disturb the attributes of the spaces. Units remain d-spaces, that is spaces that attract movement as they lie on more possible routes.



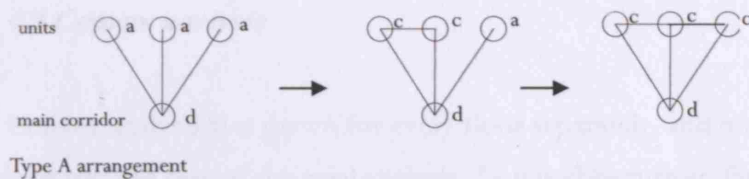


Fig. 4.28 Conversion of type A

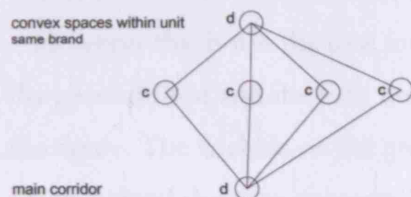


Fig. 4.29 Nike department example 5th floor

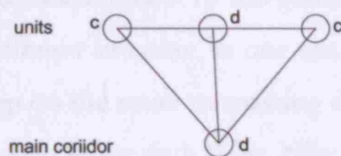


Fig. 4.30 Nautica example 2nd floor

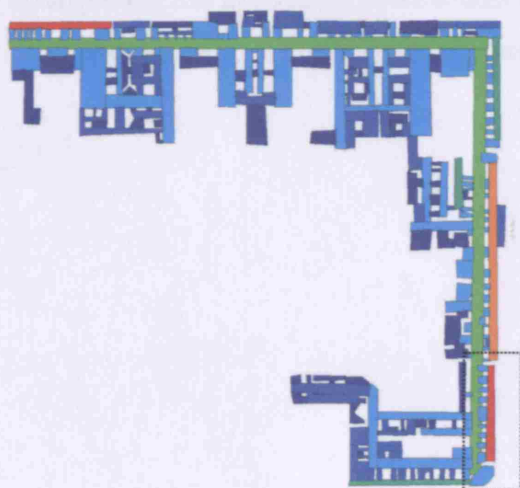


Fig. 4.29a Nike department shown in convex analysis Int R3 5th floor



Fig. 4.30a Nautica example 2nd floor

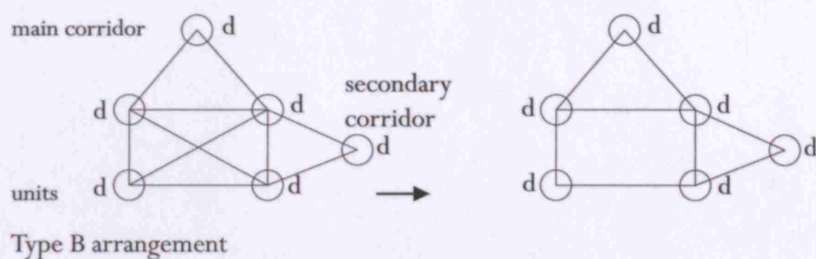
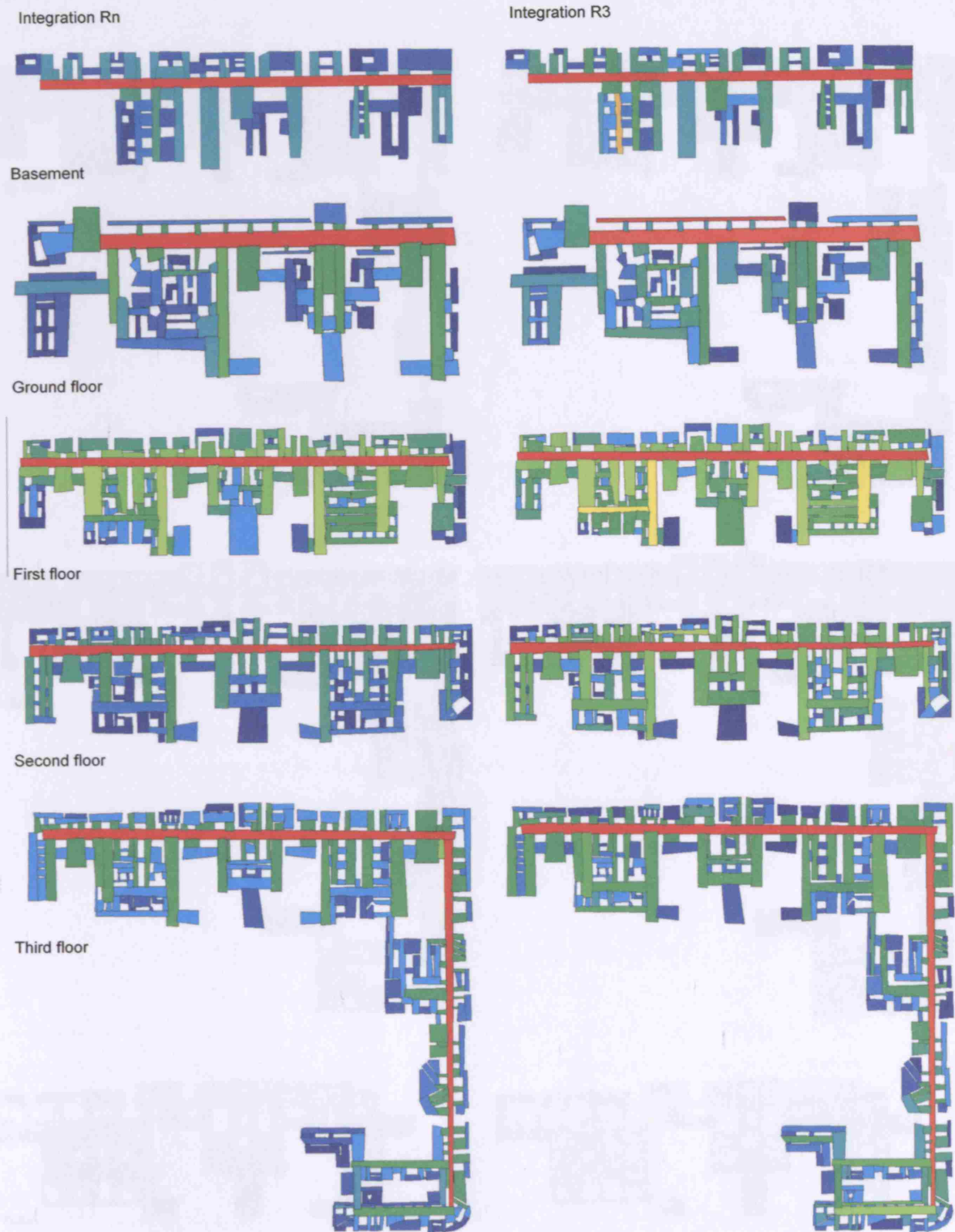


Fig. 4.31 Conversion of type B

### ***4.3 Convex analysis***

Convex analysis was drawn for every floor separately, and not as a global system which was the case of the axial analysis. As it is shown from figures 4.31, 4.32 convex analysis in Integration Rn picks up on the main corridor as being the most integrated, which means that in respect to the whole system the main gallery is the space that is present to and from the other spaces taking the fewest changes of direction.

However this is not the case in the more localized measurement of Integration R3. In the ground floor and the fifth floor we witness a different situation, as one can see from the figure. The analysis on the ground floor picks up on the route trespassing the staff space, behind the sales counters (see fig. 4.31). Whereas in the fifth floor, Nike department and Benetton children wear department are the most integrated (see convex analysis Int R3 fig.4.5). This is explained by the fact that in these departments spatial arrangement has introduced more routes within the units, creating c-spaces (see figures 4.32) and this gesture draws integration within these spaces.



Fg. 4.32 Convex analysis/floor

Integration Rn

Integration R3

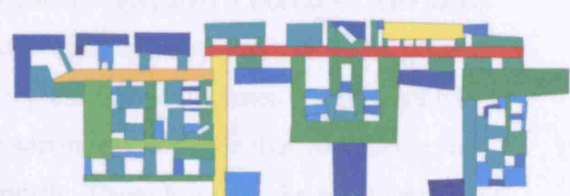
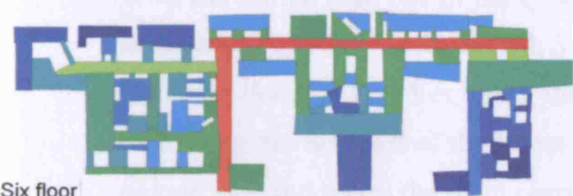
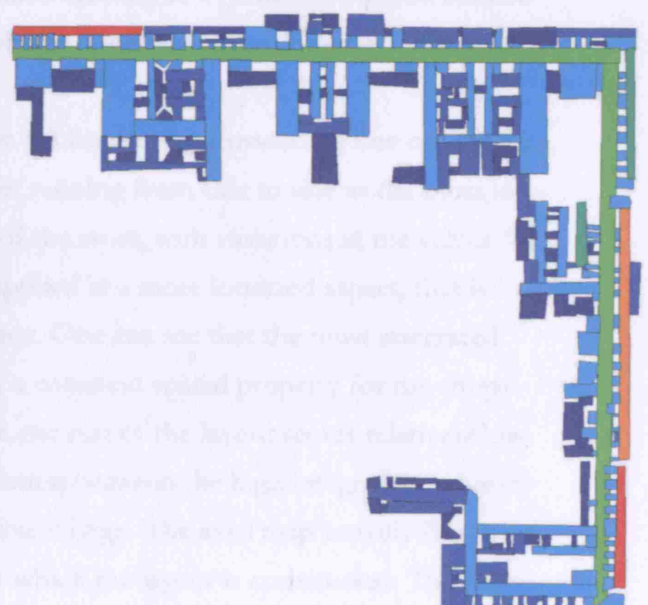
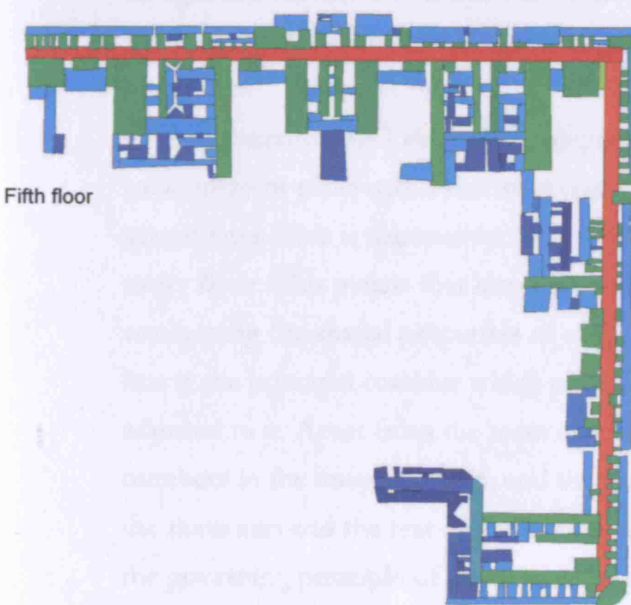
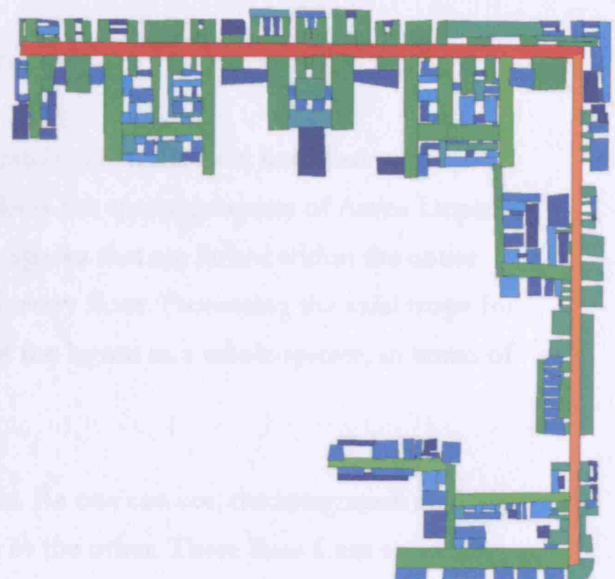
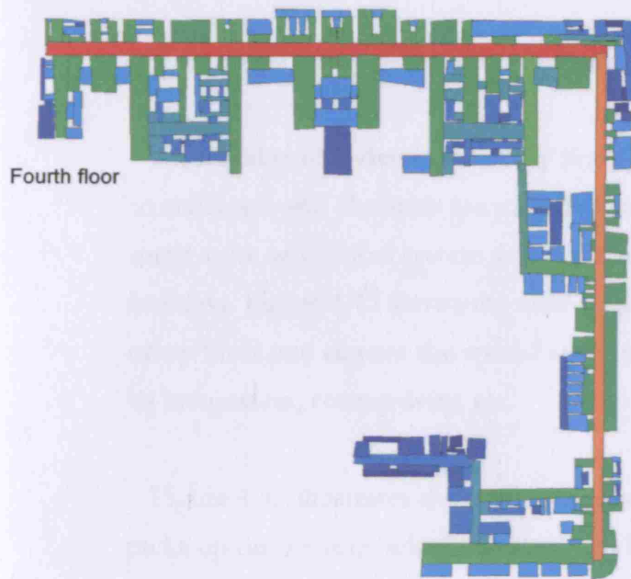


Fig. 4.33 Convex analysis/floor

## **4.4 Axial Analysis**

### **4.4a Axial Analysis of the department store**

The axial map is drawn for every floor separately. Then the axial lines that correspond to staircases and elevators are joined. This reflects the spatial property of Attica Department store as a global system as it links all the spaces that are linked within the entire building. Figure 4.43 shows the axial maps for every floor. Processing the axial maps for every floor one can see the spatial attributes of the layout as a whole system, in terms of its integration, connectivity, etc.

Figure 4.43 illustrates the axial integration Rn. As one can see, the integration analysis picks up on the lines which connect one floor to the other. These lines form an integration core spread around escalators, staircase and lifts. This measurement is normal since Integration Rn refers to the layout of the entire building as a global system and connections between the floors in respect to the whole of the system are of great importance.

The illustration 4.43 shows the Integration R3 for the department. As one can see this measurement picks up on the main corridors running from side to side as the most integrated lines. This is depicted in every floor of the store, with variations in the values for every floor. This means that integration is applied in a more localized aspect, that is concerning the spatial properties of each floor. One can see that the most integrated line is the principal corridor which provides a common spatial property for the shops adjusted to it. Apart from the main corridor, the rest of the layout scores relatively low numbers in the integration R3, and the gradation between the high integration value of the main axis and the rest of the configuration is large. The axial map actually illustrates the governing principle of the scheme upon which the layout is constructed. The segregated axial lines are located in the periphery of the layout. The more a space is distanced from the central axial line of the corridor, the more segregated it becomes. The same analysis was applied for floors 3, 4, 5 which are larger in respect to basement, ground floor and floors 1, 2, 6. Yet, again, the analysis picks up on the main corridor which runs along the first part of the layout and the secondary corridor that runs along the second part and meets the main corridor vertically. These lines are the most integrated, and as one can see this is a common spatial feature in all floors (3,4,5) with variations on the values for every layout independently.

floor	bas	ground	1st	2nd	3d	4th	5th	6th
Int R3	5.23	3.80	5.76	4.89	4.85	5.55	5.29	3.48
Int Rn	1.16	1.35	1.6	1.81	2.07	2.09	1.86	1.44

Fig. 4.41 Table of integration values/floor

A first to last order in terms of Int R3 gives the following sequence.

1st=5.76>5th=5.29>basement=5.23>4th=5.22>2nd=4.89>3d=4.85>ground=3.80>6th=3.48

Space Syntax analysis also measures the intelligibility of the department store. It is an important guide to how a layout works in buildings as well as urban complexes. Intelligibility is the degree to which what can be seen from individual spaces in the layout gives a good guide to the position of that space in the layout as whole and is measured through the correlation of connectivity and integration.

Intelligibility accounts for the overall sense of orientation within the layout, that is being able to coordinate oneself within a part of a space in respect to the whole system. Firstly, intelligibility was drawn for Attica Department store as a global system. The system produces a weak correlation of  $R_{square}=0.114$ , meaning that Attica department store is an unintelligible system, a feature which is common in consuming environments.

Cases like Selfridges ( $R_{square}=0.059$ ) in London, are examined through space syntax and proven to be unintelligible systems. This means that the layout attracts customers within it and disorients them throughout space; that way, customers spend more time trying to find their way round the building and consequently engage in a longer and deeper browsing.

Floor	bas	ground	1st	2nd	3d	4th	5th	6th
Intelligibility	0.07	0.1	0.18	0.125	0.2375	0.045	0.148	0.14

Fig.4.42 Table of Intelligibility value/ floor

The order from first to last is 3d floor>5th floor>6th floor>2nd floor>1st floor>ground floor> basement



## Integration Rn

## Integration R3

### Basement

### Ground floor

### First floor

### Second floor

### Third floor

### Fourth floor

### Fifth floor

### Six floor

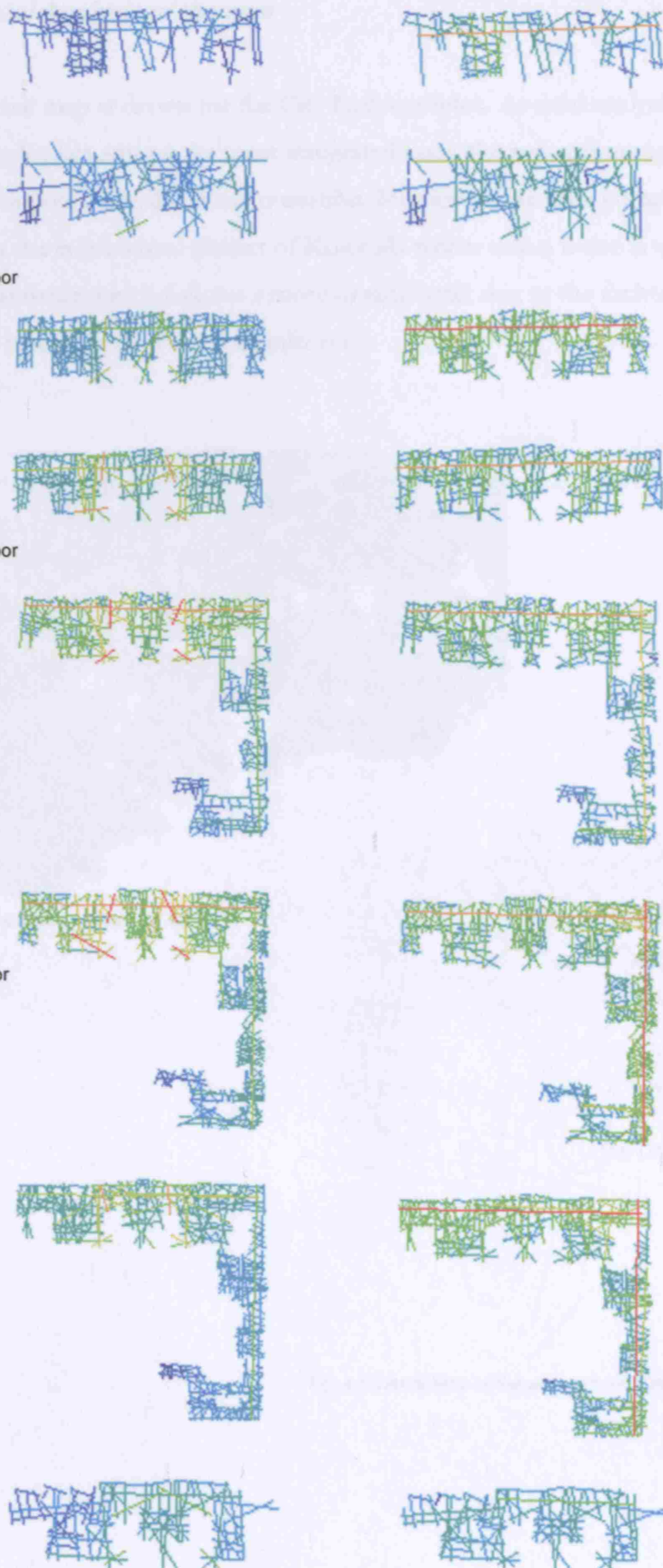


Fig 4.43 Axial Maps for every floor (connected system)

#### 4.4b Axial Analysis of the area

The axial map is drawn for the City Link complex. As axial analysis shows (fig.4.45) the complex lies among the most integrated lines, the major thorough-fares of Stadiou, Panepistimiou, Amerikis, Voukourestiou. Moreover City Link complex is developed in-between the commercial district of Kolonaki where urban tissue is orthogonal, and the historical tissue which follows a more organic grid, due to the archaeological elements that are spread around the acropolis site.

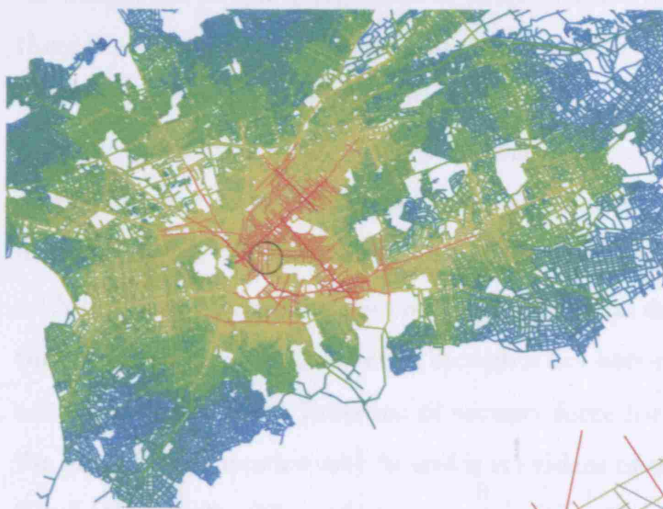


Fig. 4.44 Axial Map of Athens, Int Rn

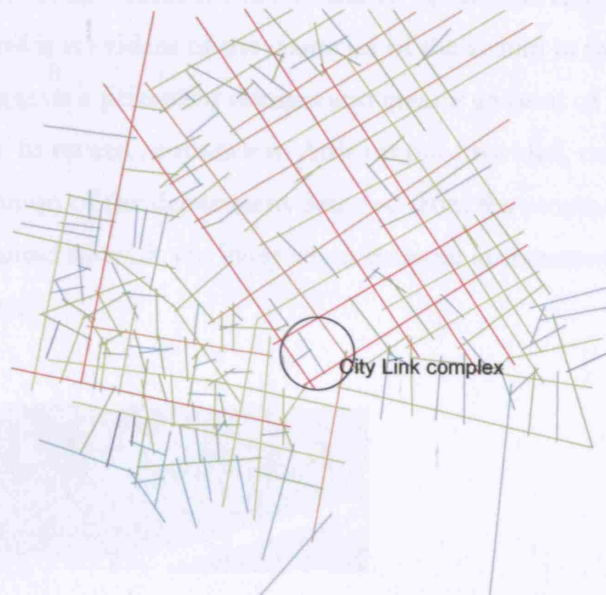


Fig. 4.45 Axial Map of the area around City Link, Int R3



## 4.5 Analysis on observation

### 4.5a Analysis on observation on the City Link complex

Gate counting records movement flow in the City Link complex in order to investigate the relation of the department store to the newly developed district. The observation has recorded a correlation between moving people (non shoppers/suits) and integration values walking by/through the city link complex. This observation gives proof to the intelligibility of the area and is supported by the theory of natural movement.

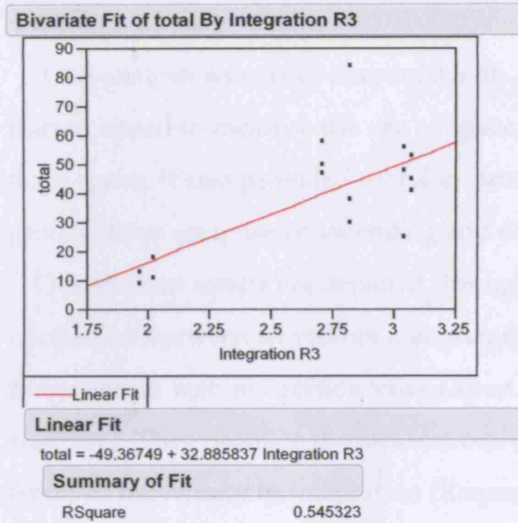
Amongst the people categorized as shoppers, that is people carrying shopping bags, there is a less significant correlation. Attica female customers produce the same correlation as shoppers in relation to integration values, whereas Attica male customers produced low numbers while observation was undertaken. Tourists appeared in organized groups moving on the main axis (Panepistimiou and Stadiou street), but only individual tourists or pairs of tourists entered into City Link complex.

Out of the observation data one can suggest that the City Link complex acts as cut-through for passengers, and even though it lies between very busy streets it sustains an enclosed environment. Presence of security force for the insurance of bank services in the gates Voukourestiou and Amerikis is evident of the character of the atrium in the City Link complex. The atrium suggests a privatized domain and greater amount of pedestrian movement is discouraged. In reverse, entrance to Attica is not provided, nor are there any evidence of the operation of the department detected from the atrium (window display). The store is oriented towards the lively street network and creates a strong interface with the passers-by.

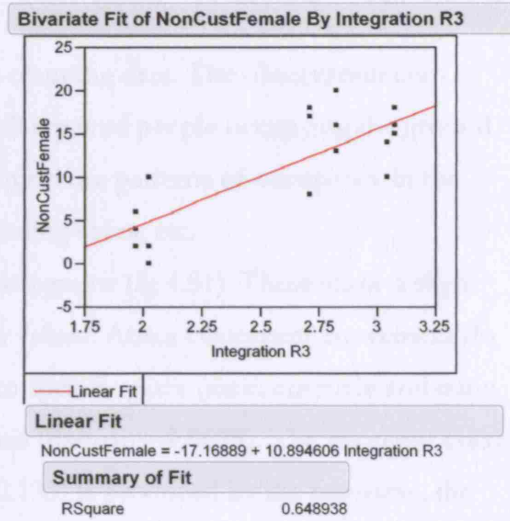


Fg.4.5 City Link atrium

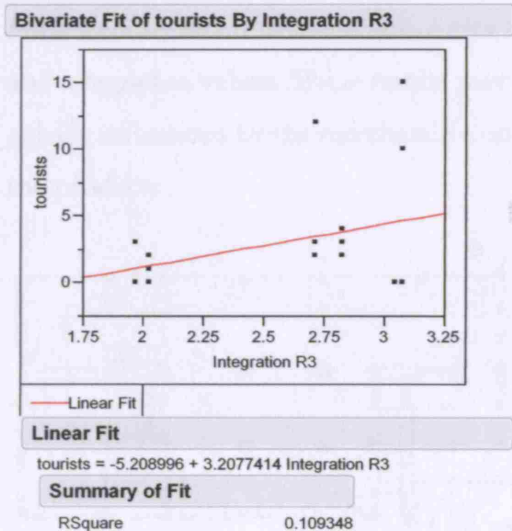
Correlation between total moving people and Int R3



Correlation between non-customers female and Int R3



Correlation between tourists and Int R3



Correlation between Attica customers female and Int R3

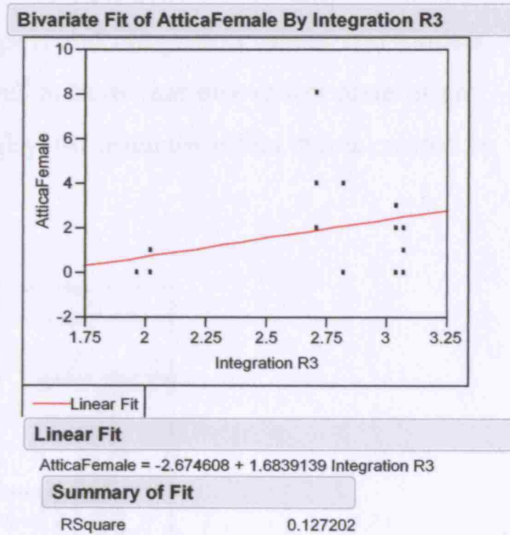


Fig. 4.51 Scattegrams between people moving and integration values for City Link complex

#### *4.5b Analysis on observation on the department store*

Axial analysis was cross-examined with gate counting data. The observation conducted aimed to measure the use of space by all types of people occupying the ground floor space. It also provided useful information on the patterns of occupancy in the ground floor area, use of ascending and descending stairs, etc.

Observation results are depicted through scattegrams (fig 4.51). These show a slight correlation between all visitors and integration values. Attica customers' movement do not correlate with integration values apart from specific gates (main entrance and main staircase). They produce the weakest correlation ( $R_{\text{square}}=0.0023$ ). The strongest correlation of movement to integration ( $R_{\text{square}}=0.133$ ) is produced by the browsers, the visitors that arrive or/and leave the store without any evidence of shopping. The examination of this result suggests that browsers not only explore space, they are also traced in the integrated spaces of the ground floor of the department. Relatively weak correlations were recorded between non-Attica shoppers and integration values, and tourists and integration values. These results may as well indicate that movement patterns are equally influenced by the merchandise on display, the attractor-effect that is created by the products.

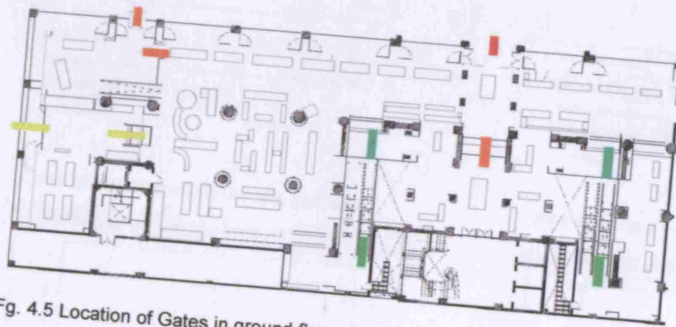


Fig. 4.5 Location of Gates in ground floor of the department store

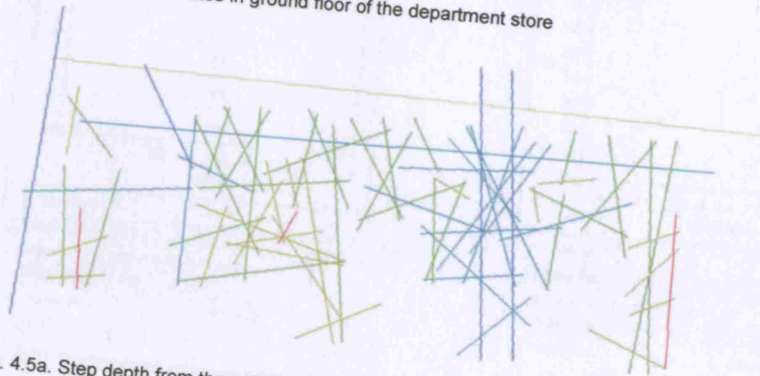
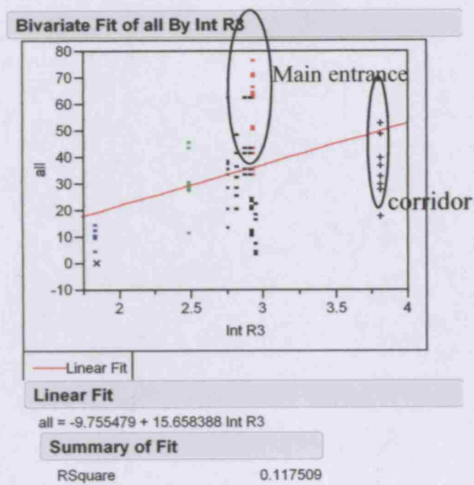


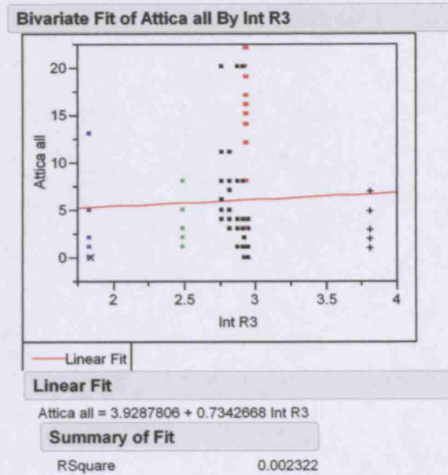
Fig. 4.5a. Step depth from the entrance in ground floor



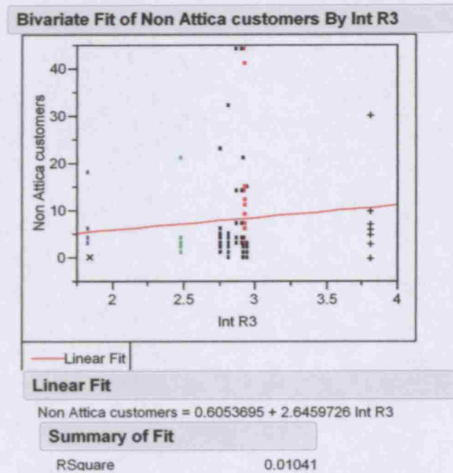
Correlation between All visitors and Int R3



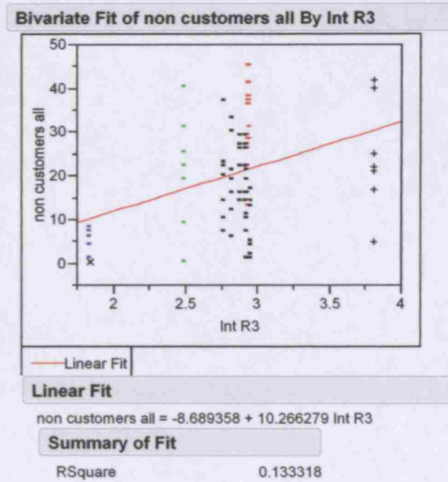
Correlation between All Attica customers and Int R3



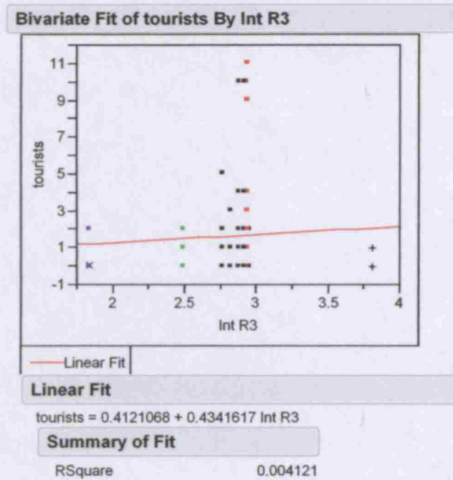
Correlation between All shoppers (non- Attica) and Int R3



Correlation between All browsers (non-shoppers) and Int R3



Correlation between All tourists and Int R3



All visitors and Int r3 (only entrances)

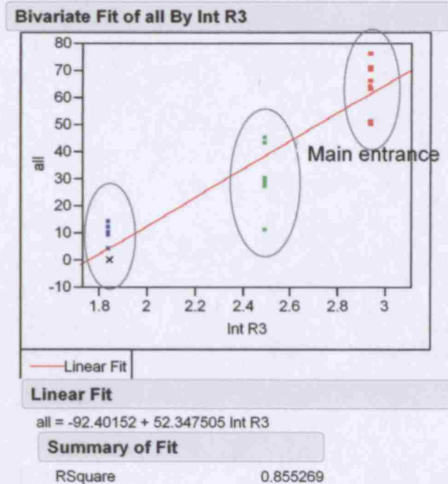


Fig. 4.51 Scattegrams of space occupancy for the ground space

Observation conducted in ground floor, as well as people following were used to identify the use of space in the ground floor.

Making a step-depth axial process for the ground floor from the entrance, (the entrance lying in Panepistimiou street) we observed that lines leading or passing through the stairs and leading to the lifts were depth1, the main corridor running along depth2, lines going to staircases ascending depth 3, lines going to descending stairs (to the basement) depth4, lines from upper levels depth4. The fact that the central line is 1 step away from the entrance accounts for the fact that most people use it, rather than the sliding staircases despite the fact that in the justified graph analysis, one has to pass a total of six spaces to reach it. In addition to that, the main flight of stairs is an important architectural element which lies on the isovists' field when drawn from the main entrance.

Moreover while observation was conducted, the study recorded the confusion in terms of orientation and the ability to find one's way. This is partially explained from the low value of intelligibility. Picking up only the lines connecting the network of movements within the ground floor and forming the movement-only system of axials, (entrances, corridors, staircases) the study produced a scattergram between connectivity and integration (fg 4.52). The result depicts no correlation between integration and connectivity measures, giving a low figure, lower than the figure of intelligibility of the entire ground floor system. This gives evidence of the intention of the layout to create a confusing environment with the aim that it will enable the searching process and browsing within the layout.

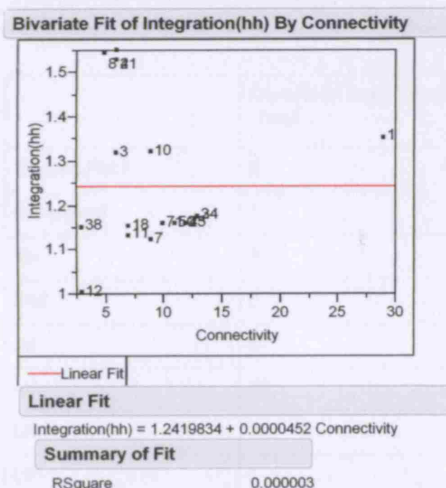


Fig 4.52 Scattergram showing the unintelligibility of the network of movement routes for the ground floor

#### 4.5c Analysis on People following observation data

People following method as it is described in Ch3. gives evidence on the behavioural patterns of the visitors occupying Attica. People following was conducted for the entire department store. People were followed from specific access point locations. Access points where either entrances to the building, or access points from every floor (staircases). The fact that the layout of the store and its typology are common for basement, ground, first and second floor, with the same guideline for the third, fourth, fifth, sixth floor allowed an overall examination of the total amount of people, meaning their interaction to the spatial properties and their behavioural patterns. This investigation makes up the profile of the average visitor within Attica.

	Purchase within 10 min	Browse within 10 min	Destination
Ground floor		4	16
Basement		7	1
1st	1	8	
2nd		9	1
3d		9	2
4th	2	11	
5th	2	14	
6th		2	5
Out of 95 people	5 purchase within 10 min	64 browse	25 go directly to a destination point

Fig. 4.53 Table on the activity of visitors

	Remain in the floor within 10min	Leave the floor within 10 min
Ground floor	3	17
Basement	7	1
1st	3	6
2nd	8	2
3d	8	3
4th	13	0
5th	15	1
6th	7	1
Out of 95 people	64 remain	31 leave

Fig. 4.54 Table on the activity of visitors/ length of stay

Out of the 95 people followed, 5 people submit to purchase within 10 min, 25 people have a direct destination and 64 people stroll around the shop browsing. Buildings like urban systems have an origin, but unlike urban systems the destination is subjective, especially when the subject of examination is shopping environments.

As stated by Hillier (1996) every trip in an urban system has three elements: an origin, a destination and the series of spaces that are passed. In the cases of buildings and specifically department stores, the above argument is paraphrased. Entrance is the starting point of the trip within the store. However movement within the layout is enabled and guided by a variety of factors, intelligibility of the space, attractors, visual signs, etc. To-movement is also depended on the above factors. More or less browsing, identified as the most popular activity by visitors in Attica within ten minutes time after entering a floor, becomes a to-movement in the sense that it replaces destination. What is considered to be through –movement in settlements - a by-product activity - becomes an end in itself within the department. The people observed from the moment of their entrance to be heading towards a destination were either customers looking for some specific service (for example to change a purchase) or staff.

Table 4.54 shows that out of all visitors observed, 64 out of 95 remain in the same floor when accessing it. This is stronger in the case of the third, fourth and fifth floor, where the total area is larger than floors six, second, first, ground and basement. Area plays a role when it come to the time needed to explore a layout and its exhibits. Especially when it comes to ground floor occupancy, which is accessible from three entry points, the majority of people (17 out of 20) go straight to the lifts or escalators and only 3 out of 20 engage with the ground floor exhibits for 10 minutes minimum. As it was referred in the analysis, main staircase is step depth one from the entrance and people go straight towards it. Sixth floor also attracted visitors who remained within the floor: As it is shown in table 4.53 six floor customers moved “towards a destination”. Provision of multiple purchase cash point and a café/restaurant in the sixth floor affect the overall attraction observed. Generally the attractor effect which is based on the quality of products, price, range, variety, service etc also influences the behaviour of visitors and customers.

People	Interact with staff	No interaction with staff
Ground floor	2	18
Basement	3	5
1st floor	4	5
2nd floor	5	5
3d floor	5	6
4th floor	9	4
5th floor	8	8
6th floor	4	4
total	40 people interact with staff	54 people had no interaction with staff

Fig. 4.55 Table on the interaction of visitors with staff

Table 4.55 records the activity in terms of interaction with staff. From this observation one can see that the largest amount of people observed did not interact with members of the staff. The ones that did interact were either trying out clothes, or having a persistent browsing throughout the layout or even submitting to a purchase. In other cases visitors contacted members of the staff in order to get assistance on directions, on pointing a location of a specific department, paying/returning items in the cash point etc. No interaction with staff in the case of the ground floor is associated with the fact that people were recorder to head straight to the stairs.

Generally this evidence in a way supports the behavioural pattern established by the examination of the activities of visitors within the shop in terms of browsing/purchasing etc. Browsers involved in an informative experience of the layout, tended not to interact with members of the staff. Browsing is actually more of a stroll throughout the store, a sequential approach towards the structural arrangement. This specific behavioural pattern is the equivalent of a walk in the retail central district, where customers are engaged in a window-shopping activity, browsing without commitment. The structure of the layout of Attica department store welcomes such an activity and people respond positively to that.



Movement of people according to spatial arrangement	Linear	Cluster	Linear and cluster
Ground floor	3		1
Basement	3		4
1st	2	2	4
2nd	3	1	5
3d	5	1	3
4th	10		3
5th	13		3
6th	2	1	2
Total people	41	5	25

Fig. 4.56 Table on the interaction of visitors with the two types of arrangement

The above table shows how people interact with the spatial arrangements they come across within the layout within 10 minutes time since accessing a floor. The interaction stands for an engagement with the merchandise and is defined as a deep browsing (walk into the unit and perform a search) or as a significant contact with the products (stopping and picking up an item). As observed the majority of the clientele makes a stronger contact with products exhibited in the linear distribution. A lesser amount performs a more elaborate search in both arrangements, whereas only a small amount of browsers is involved in a significant search within the cluster type only.

As an overall appreciation of the behavioural patterns performed by the visitors within Attica department store we may conclude to the fact that 57% of the browsers are being involved in a more elaborate search in linear departments. Also 68% of the visitors accessing a floor are browsing during a ten minutes time, 67% of the visitors remain within the same floor ten minutes after accessing it, whereas only 5% submit to a quick purchase within the same floor. The above results enable the examination of the social structure of Attica department store. They also project and throw light on the dialectic relation between the spatial properties and the users of space. They trigger the investigation of visitors' response to the layout and of the ways through which the layout dictates their behaviour within the store. Through this example research comments on the way consuming environments are experienced and discusses their transitory situation in contemporary urban landscapes. The main argument is the fact that most people are attracted to this particular department floor to get an informative experience of what is on display. The behavioural patterns strengthen the argument made on the

street-like spatial configuration of the store. The experience of space and consequently of what is on offer is based on a sequential mode of arrangement. The layout operates in an exhibitory manner, offering the opposite effect of the Ikea experience where coerciveness and feelings of entrapment emerge. Attica department store provides a symmetrical and ordered structural arrangement which is based on a promenade-like central corridor. The layout welcomes and dictates a long stroll along the department simulating the spatial attributes of a street network, the prevailing of which is communication and information without commitment experienced in the streets of retail markets. Visitors follow this succession at ease. This can also be assumed from the attraction of visitors to the linear arrangement instead of the clustering arrangement since type A arrangement is controlled by the main corridor. In this organisation browsing is shallow to the common, public gallery and is performed from of non-

## ***Ch5. Discussion***

This chapter discusses the main findings that have emerged from the examination of shopping interfaces taken through the analysis of Attica department store, in Athens Greece. Research conducted aimed to explore how the spatial paradox of commercial spaces is dealt within Attica, how structure manages the spatial and social experience in the store, and where does its success lies from a syntactic perspective.

Report has applied space syntax methodology for the spatial and social investigation of Attica department store. Spatial properties were examined through syntactic analysis. Syntactic analysis in turn has made possible the retrieval on the social reading of the layout, and observation data have given evidence of the space use.

Attica department store manages to attract a great deal of visitors; however, as observation data have shown these visitors are not necessarily visiting with the intention of purchasing, instead they walk in the store in order to experience the space. Apart from the fact that generally this study has dealt with a well designed environment there are other spatial features that contribute to the experience within this shopping space.

Shopping interface is created through a hierarchical street-like network of movement, governed by the main corridor. This spatial pattern is a typical way of overcoming the problem of distribution in enclosed environments, specifically in department stores. Objects on offer are placed, in either linear sequential arrangement along on one side of the routes or in clustering arrangement in the large convex spaces along the other side of the corridor. Selling units' arrangement and network of movement simulates the atmosphere of a retail district.

Generally the store manages to homogenize luxury items to affordable ones using the same configuration in a continuous, uniform space. There are however subtle elements within the layout that represent social differences. Classification and hierarchy are achieved through the array of objects. Small numbers in the array recorded in the expensive branding as were the cases of Burberry responds to strong classification. The rule governing the state-of-the-art selling units obeys the "things must be kept apart" principle, and as it has been registered in the study that applies to type A linear arrangement. Cells are symmetric to the corridor and all relations developed are controlled by it. The more these cells are defined by strong boundaries, the stronger the rules of exclusion upon which classification is coordinated. Fewer choices imply a restricted code without

knowledge of which the user is less likely to communicate with the merchandise, or associate himself with the class represented. This marks the differentiation between aspirers and achievers. Variations on typology of type A, which was originally established, show how the structure moves from an ordered system to a more liberal, randomized system. The shift is made from symmetrical and non distributed relations to distributed relations. It is argued by Hillier that department stores tend to minimize non-distributed relations and maximize distributed making this way the visitors the actual inhabitants of the space (Hillier 1984, p.183). Moreover, this feature distinguishes shopping interfaces from museum layouts. Variations are introduced to provide movement to the more segregated parts of the building, yet this attempt entails social information. The openness and liberation of the spatial structure which stems from the necessity to create movement, in effect looses the boundaries and consequently status and classification.

Cluster arrangement follows the “things must be kept together” principle. In this case, no matter the merchandise on offer, hierarchy of the spatial and evidently social arrangement is not made explicit. Rather, a more organic approach governs the space. There is a more liberal distribution of furniture of object display and more removable rails all of which suggest that this spatial type reflects an openness of the structure. Variation on the typology of type B arrangement shows traces of how different labels aim to overcome the all-access pattern.

Registration of the brands within the layout manifest the transition from the luxurious to the ordinary shopping, in respect to the access point from the staircase to the main aisle. Arrangement of display, small number of items exhibited and overall appearance through the configuration in step depth one from the access point to the main aisle. Order and hierarchy are attempted, but the more one is drawn away from the access points the less this order is sustained.

The layout is developed from the transition of an informative, didactic and conservative mode to a looser structure, where variations on typology occur and evidence of generative mode are traced throughout. Moreover, as spatial properties become all the more looser, space abandons formal structure towards informal structure. Novel situations are created, and this process resembles the distribution and reshuffling of the cards, without which the game cannot be played (Hillier 1984, p.207) This in effect applies to the patterns of co-awareness, co-presence and encounters within the department. The main corridor, being a shallow in respect to the entrance integration core, carries

visitors, browsers, customers, to a public engagement in an informative spatial experience. This also has the additional effect, which we have come to call churning; people moving within the gallery continually re-encounter, not only those moving in and out of the gallery, but also those they have re-encountered previously. This feature is strong when the typology is symmetrical and non-distributed and main corridor has control of the relations to the selling units, and fades out as structure becomes looser.

Moreover the study has shown how space within Attica department store manages to produce an effective distribution system and at the same time create a spatial structure channeling visitors within all areas (the spatial paradox). Configuration as measurements have proved, produces an unintelligible environment in the aim to sustain browsers and prolong movement and enhance possible interaction with the merchandise. The main corridor is the feature that sustains orientation within the environment. Yet, as observation in the ground floor has shown, whether unintelligibility is an effective way of tackling with shopping spaces' spatial paradox is questioned. Attica store creates an exhibition layout structure to attract visitors and enable browsing.

The study triggered a discussion on the spatial and social structure of department stores and recorded how a commercial environment mediates classification. It has also shown, - through the emerging variations on the typology of spatial distribution within Attica - how it manages to overcome it. Shops manage to construct signs, because as Baudrillard (1998, p.218) argues "to become an object of consumption, an object must first become a sign" and at the same time unmake them, through weak classification structures. This succession establishes the ephemeral as the governing feature of shopping interfaces. Shopping spaces enact a social category, yet they do not impose it, since their transient character cannot sustain such an effect. Boundaries become elusive and blurred. However, there is a solid foundation that department stores have to tackle with; establishing a strong interface with the street. In this case as analysis has shown the store attracts both the spatial group of everyday life passing-by and the transpatial group of specific ordering of visitors and customers and provides the space where the two meet, with the main gallery of the layout fulfilling this purpose. Co-presence and interaction feedback the relations amongst individuals. Visitors of the store participate in an interplay of reconstituted identities and reaffirmed relationships. The consuming environment is reestablished into an exhibitory landscape of substitute pleasure, fantasy, as a symptom of our need to control, as empowerment and desire. "General public, practical and eventful shopping remains the far greater fascination" (Schreiber 1996, p.120)



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## **Appendix**



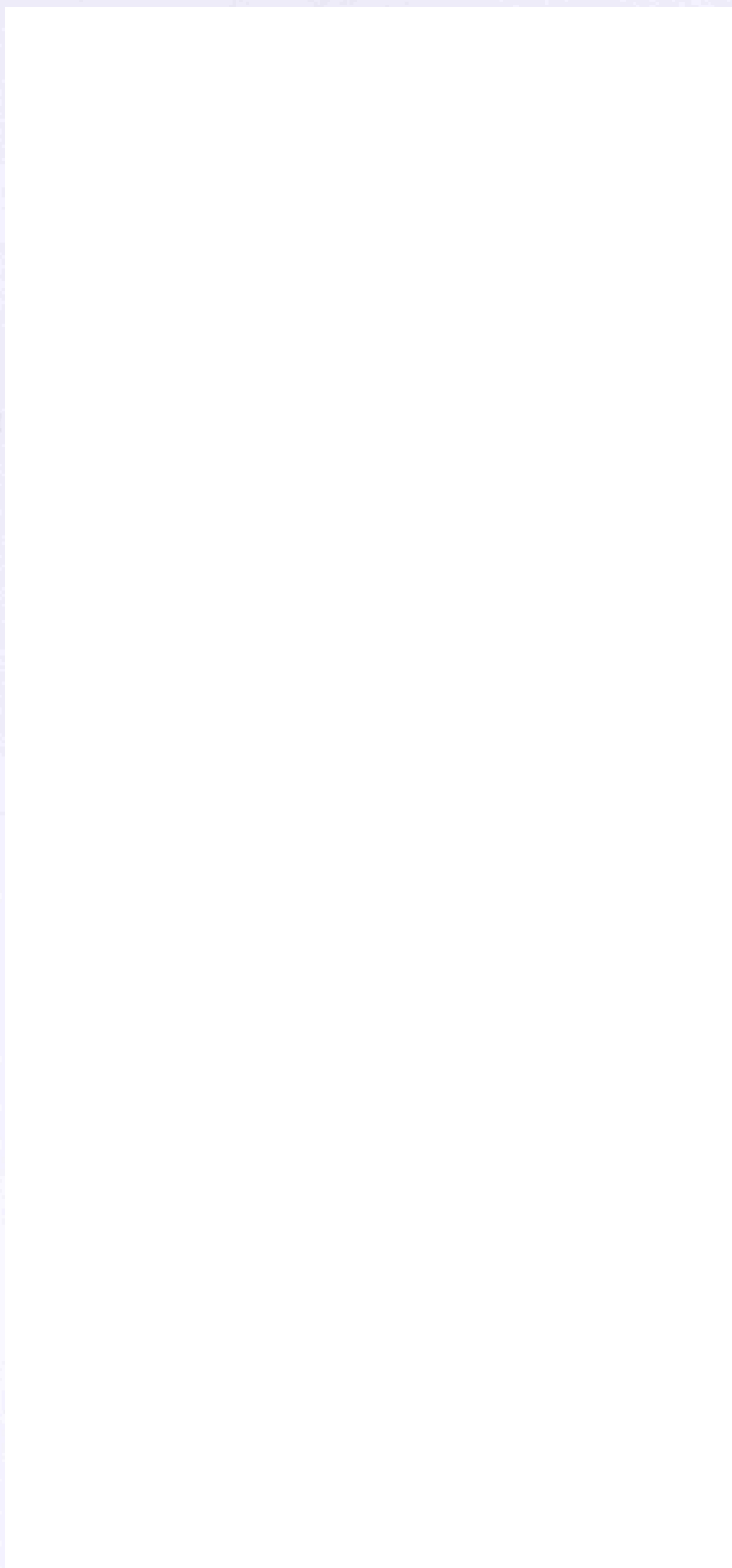
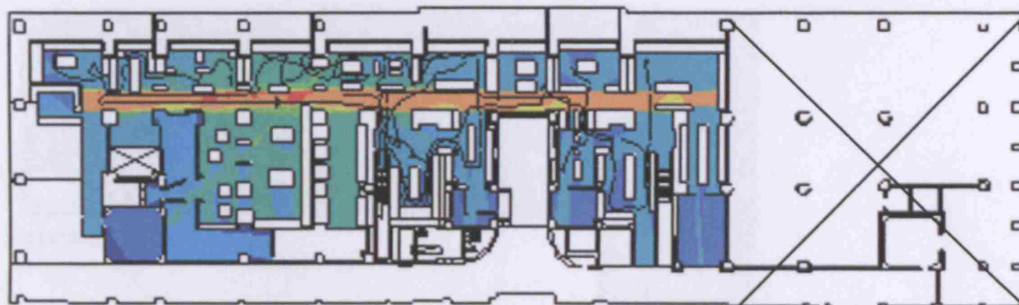




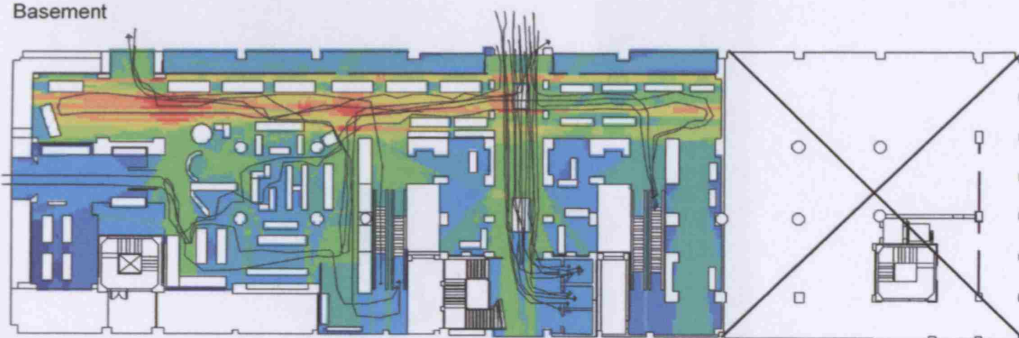
Fig. A. 3.1 Proposal for a network of public image in the city of Athens



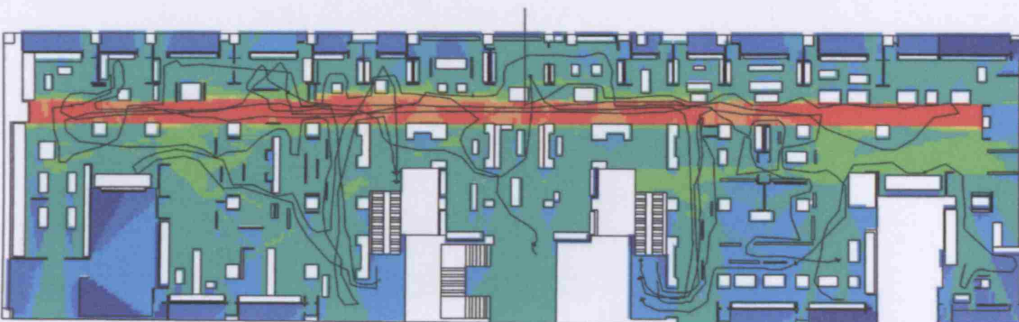
Fig.A3.2 Location of Army Pension Fund Building



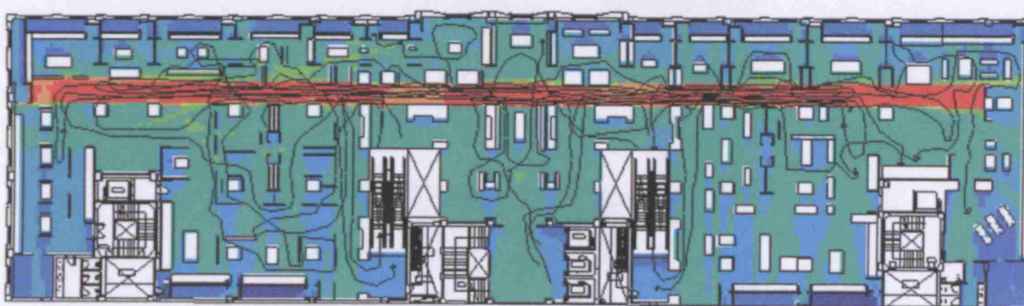
Basement



Ground floor



First floor



Second floor

Fig. A3.4a People following overlapping with VGA (Basement-ground-first-second floor)





Fg.A3.4b People following overlapping with VGA (third-fourth floor)

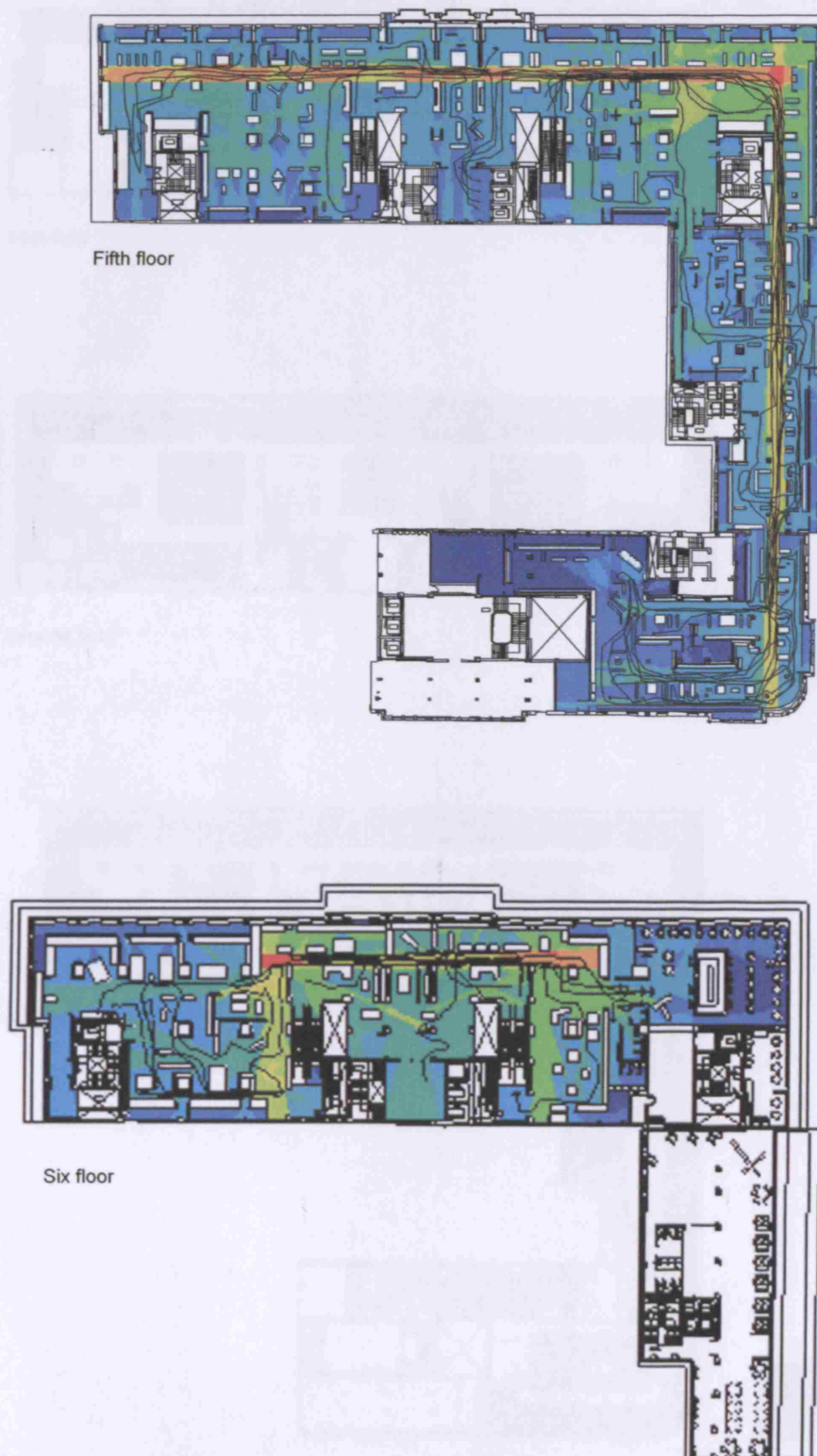
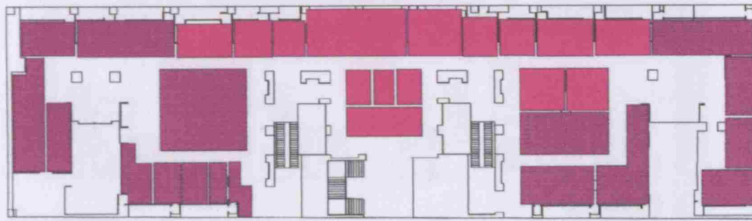
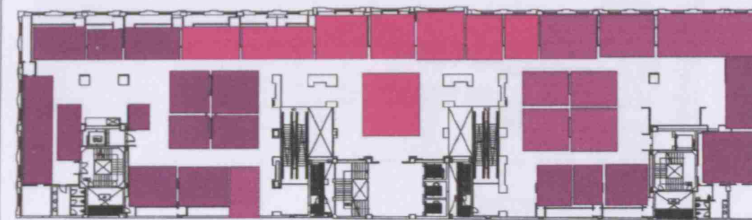


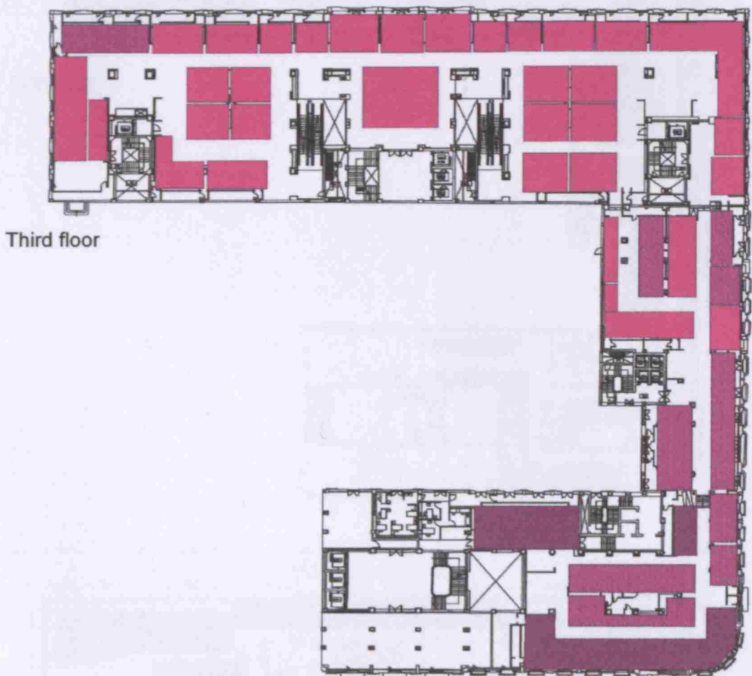
Fig.A3.4c People following overlapping with VGA (fifth-sixth floor)



First floor



Second floor

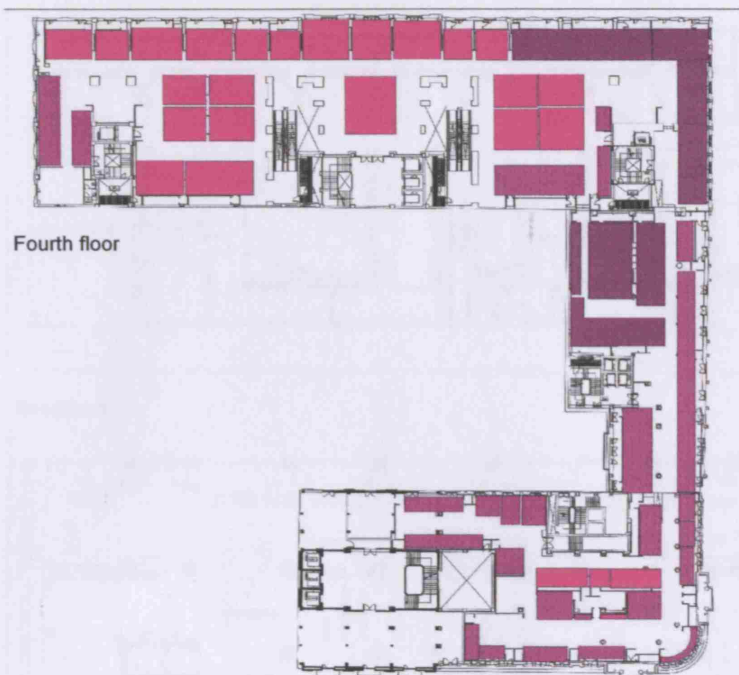


Third floor

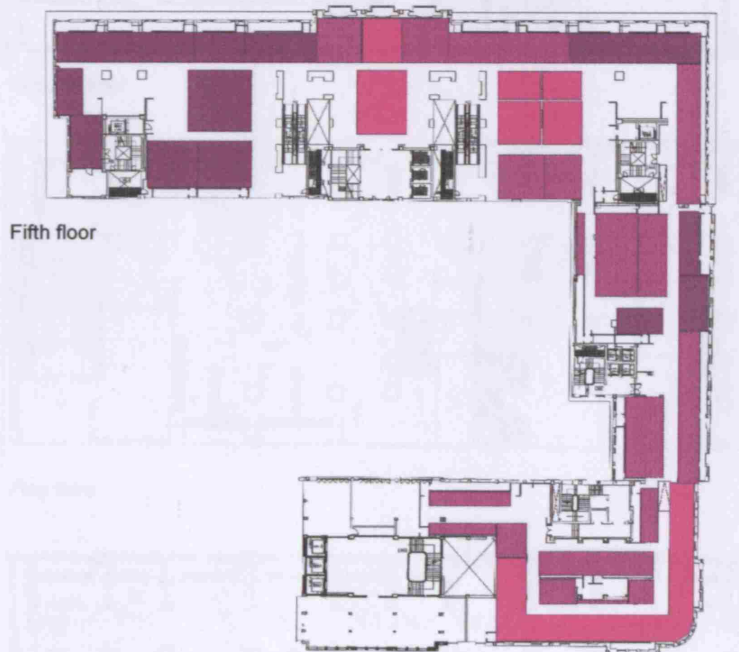
Dark to light: From large to few number of items on display

Fig A 4.21 Distribution of display small to large number of items/floor\_ first - second - third floor

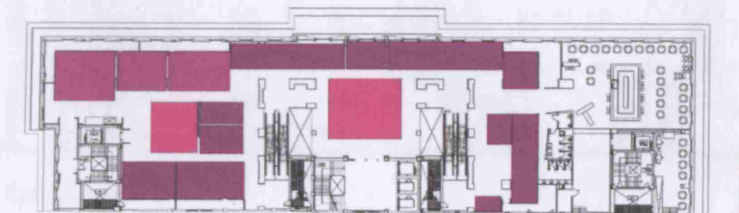




Fourth floor



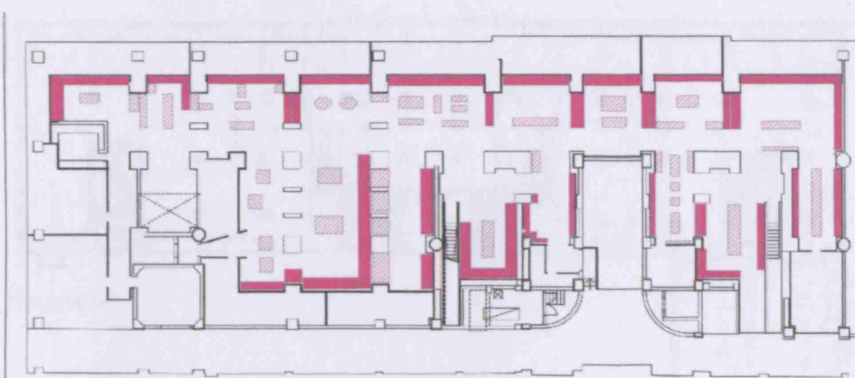
Fifth floor



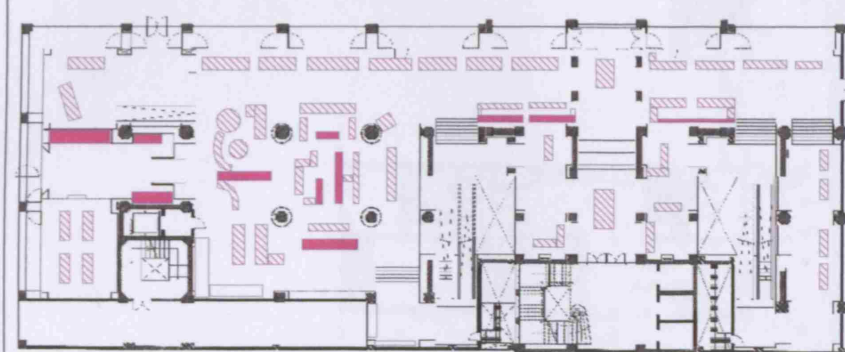
Six floor

Dark to light: From  
large to few number  
of items on display

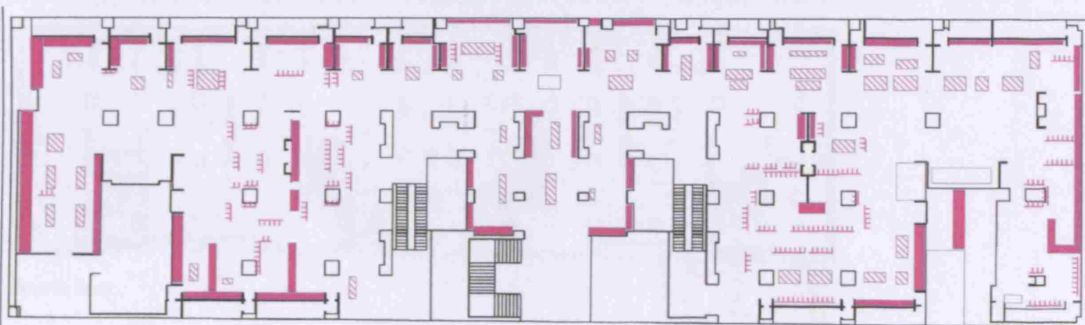
Fig. A4.22 Distribution of display small to large number of items/floor\_ fourth- fifth-sixth floor



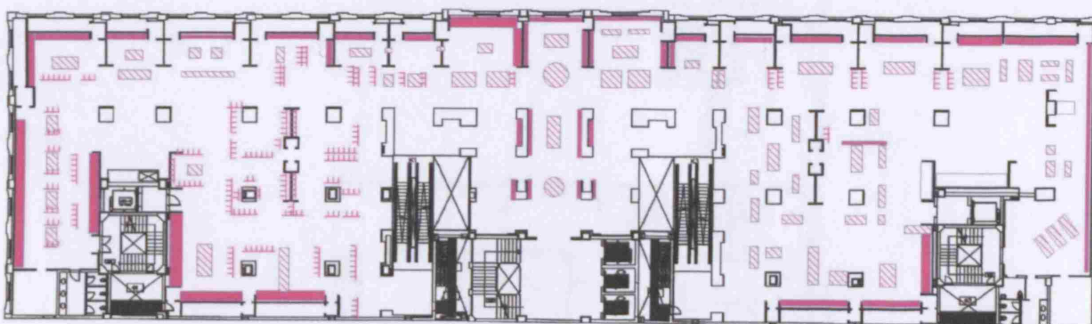
Basement



Ground floor



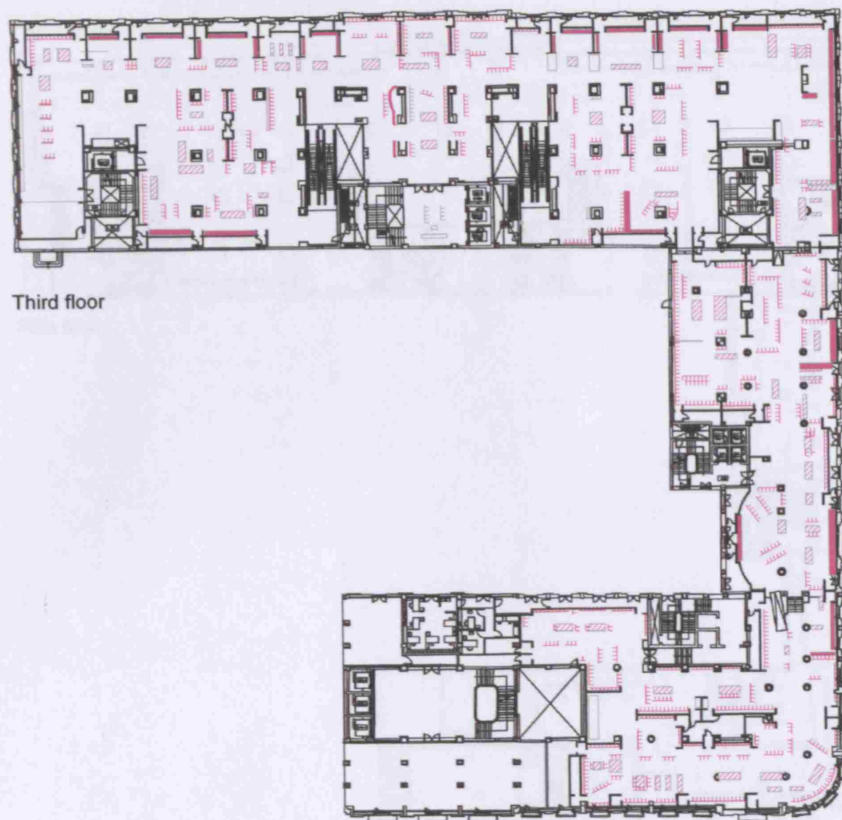
First floor



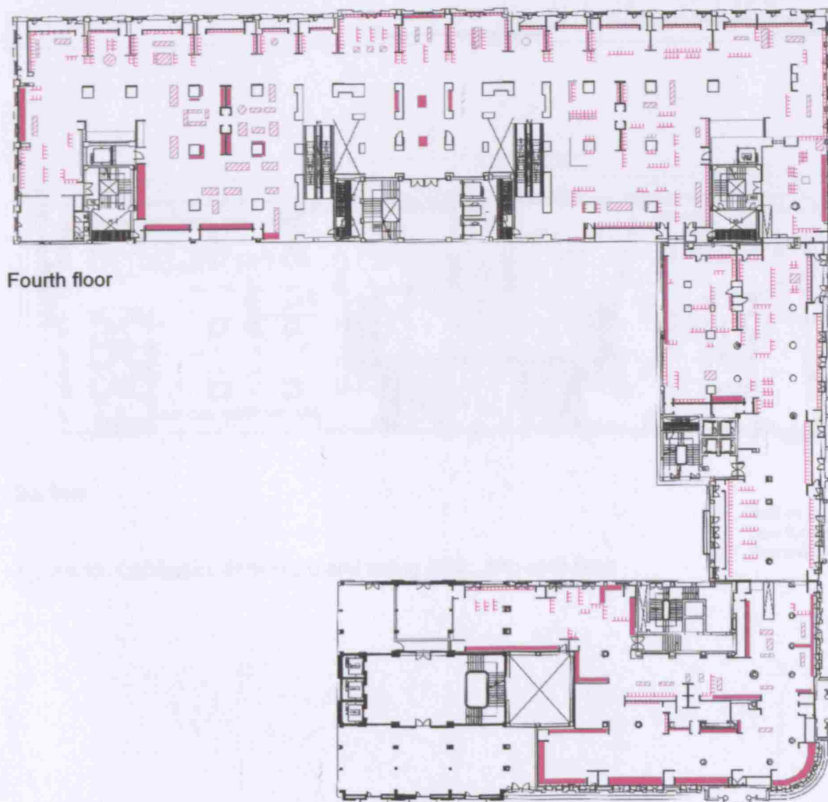
Second floor

Built-in furniture-tall  
Low furniture  
Removable railing

Fig. A4.11 Distribution of furniture and railing /floor\_ basement-ground-first-second floor



Third floor

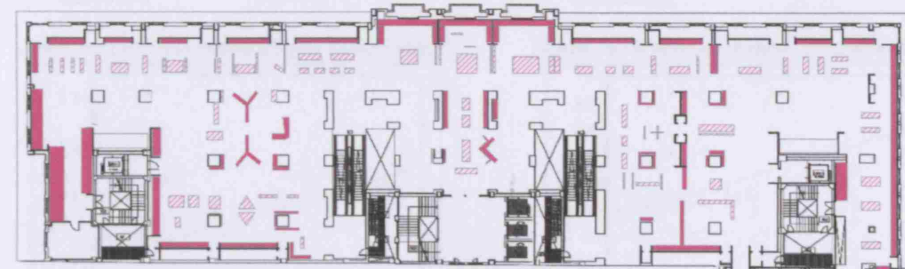


Fourth floor

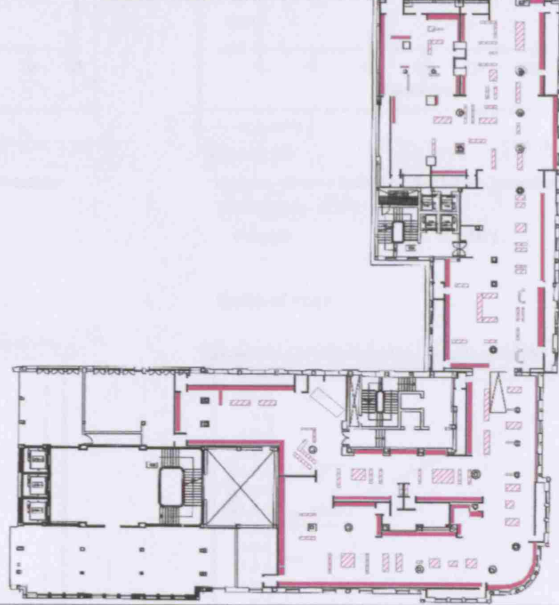
Built-in furniture-tall  
Low furniture  
Removable railing

Fig. A4.12 Distribution of furniture and railing /floor\_ third -fourth floor





Fifth floor



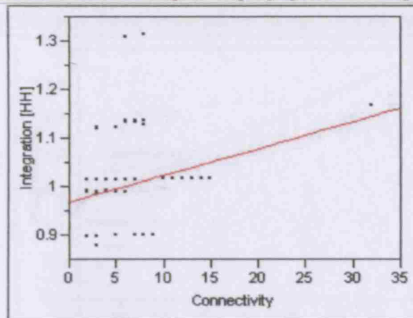
Six floor

Fig. A4.13 Distribution of furniture and railing /floor\_ fifth-sixth floor

Built-in furniture-tall  
Low furniture  
Removable railing

#### Basement

##### Bivariate Fit of Integration [HH] By Connectivity



Linear Fit

Linear Fit

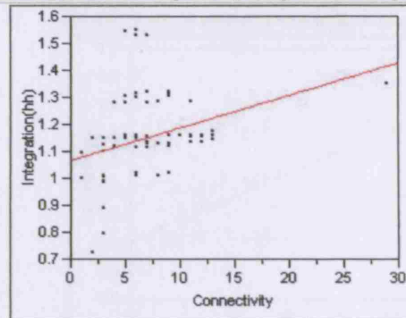
$$\text{Integration [HH]} = 0.9688226 + 0.0055266 \text{ Connectivity}$$

Summary of Fit

RSquare 0.070691

#### Ground

##### Bivariate Fit of Integration(hh) By Connectivity



Linear Fit

Linear Fit

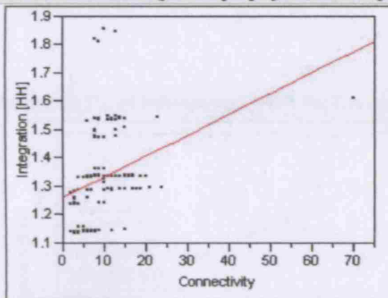
$$\text{Integration(hh)} = 1.0691416 + 0.0119565 \text{ Connectivity}$$

Summary of Fit

RSquare 0.107471

#### First floor

##### Bivariate Fit of Integration [HH] By Connectivity



Linear Fit

Linear Fit

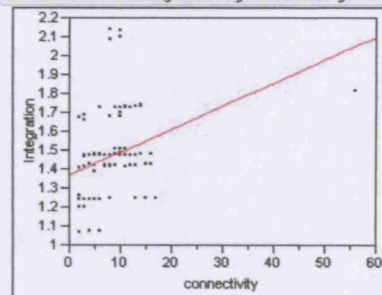
$$\text{Integration [HH]} = 1.2612654 + 0.0073715 \text{ Connectivity}$$

Summary of Fit

RSquare 0.118768

#### Second floor

##### Bivariate Fit of Integration By connectivity



Linear Fit

Linear Fit

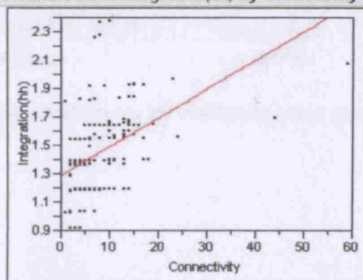
$$\text{Integration} = 1.3693229 + 0.0121765 \text{ connectivity}$$

Summary of Fit

RSquare 0.122511

#### Third floor

##### Bivariate Fit of Integration(hh) By Connectivity



Linear Fit

Linear Fit

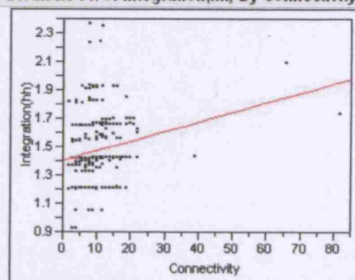
$$\text{Integration(hh)} = 1.2916501 + 0.02031 \text{ Connectivity}$$

Summary of Fit

RSquare 0.23751

#### Fourth floor

##### Bivariate Fit of Integration(hh) By Connectivity



Linear Fit

Linear Fit

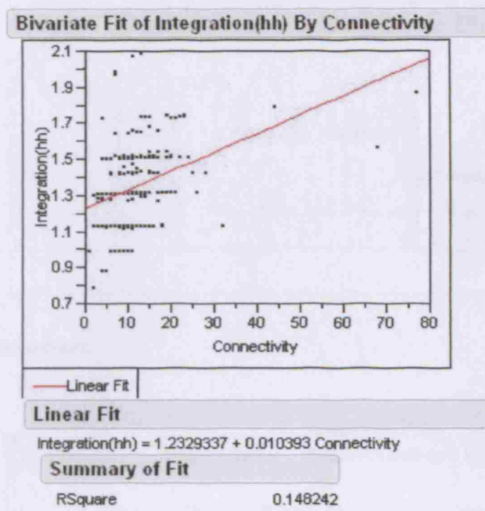
$$\text{Integration(hh)} = 1.4063205 + 0.0067444 \text{ Connectivity}$$

Summary of Fit

RSquare 0.045487

Fg. A4.41 Scattegrams for intelligibility

Fifth floor



Six floor

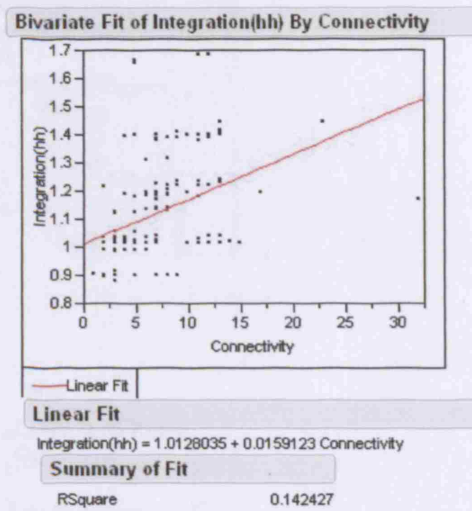


Fig. A4.42 Scattegrams for intelligibility

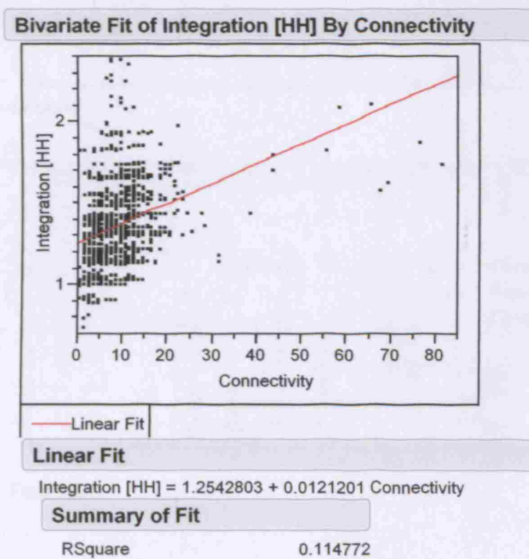
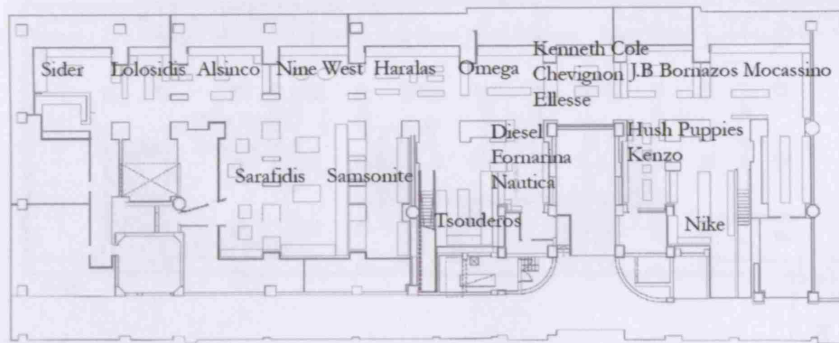
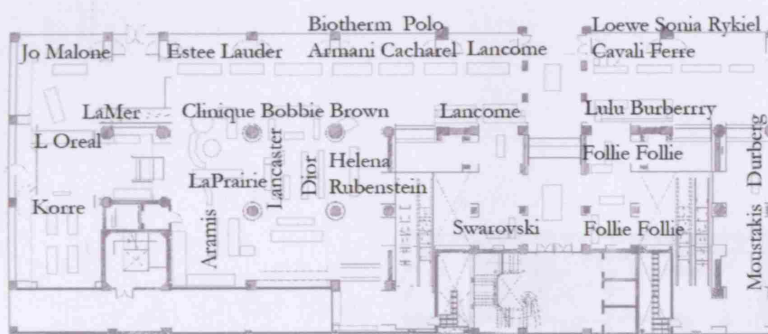


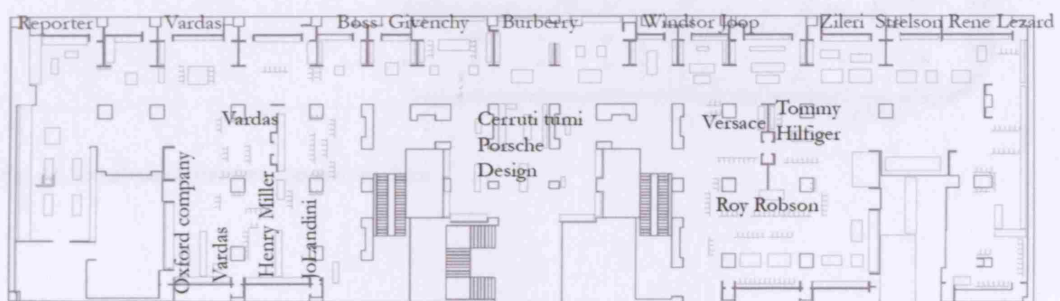
Fig A4.43 Scattegram for intelligibility as a global system



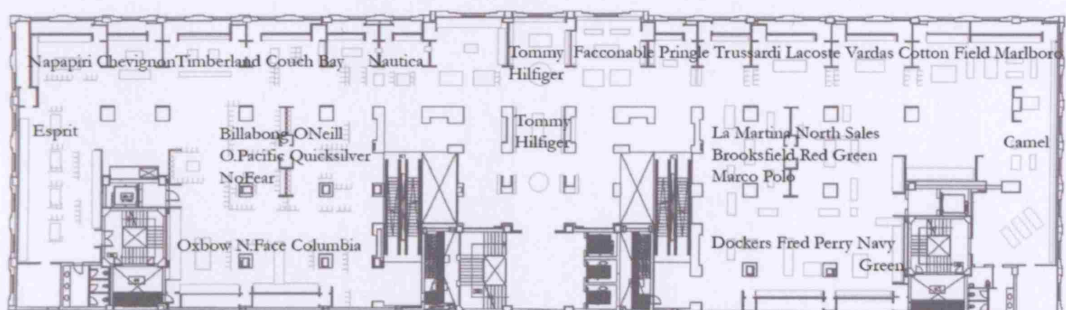
Basement



Ground



First floor



Second floor

Fig. A5.1a Labels of merchandise in every floor



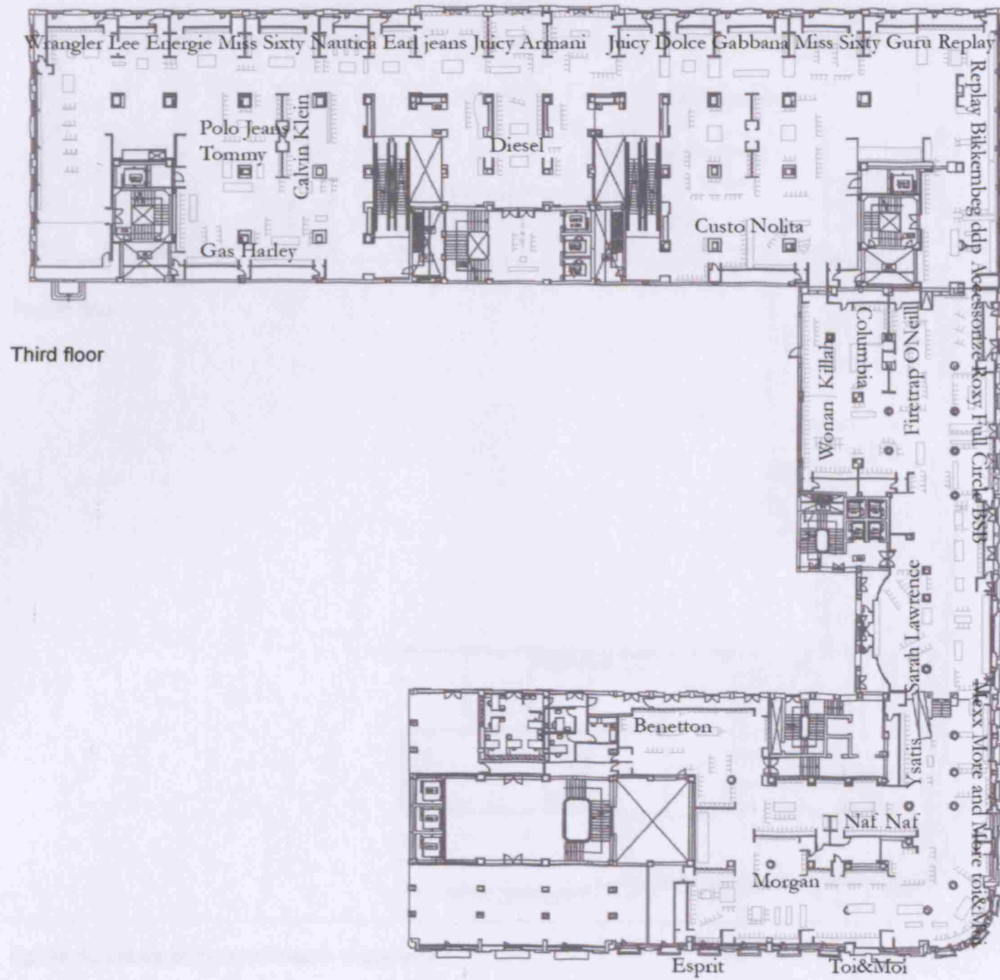
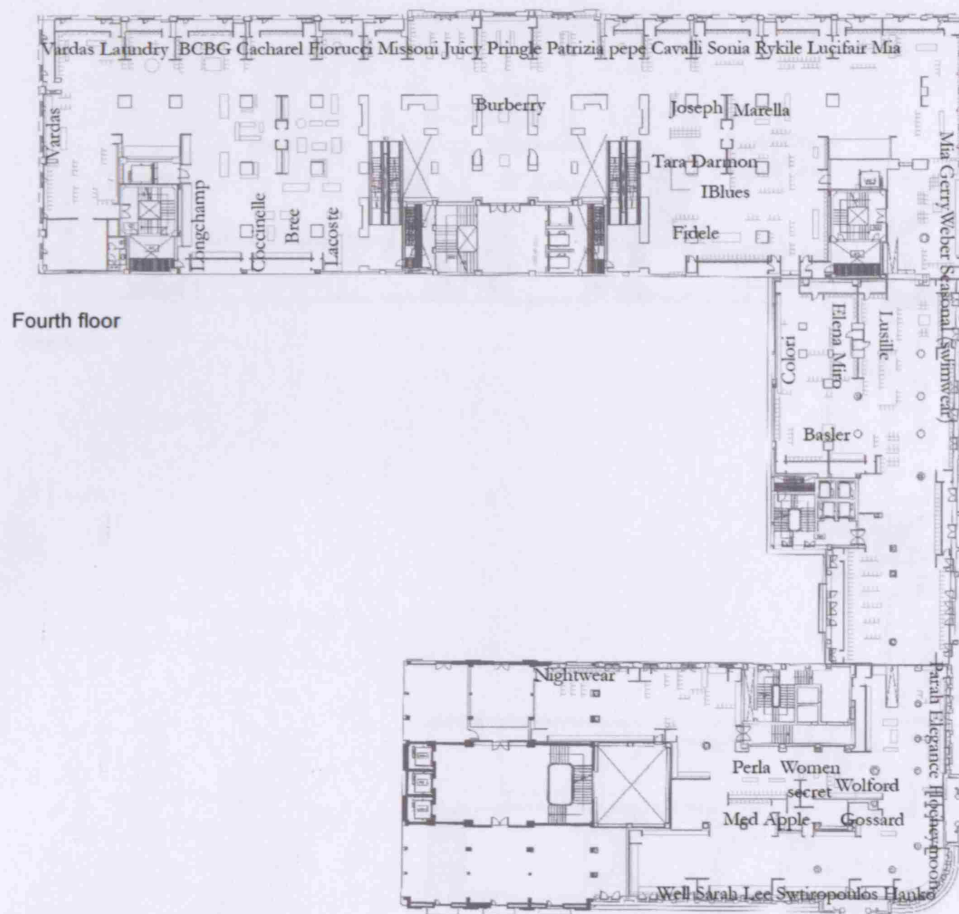


Fig. A5.1b Labels of merchandise in every floor





Fourth floor

Fig. A5.1c Labels of merchandise in every floor

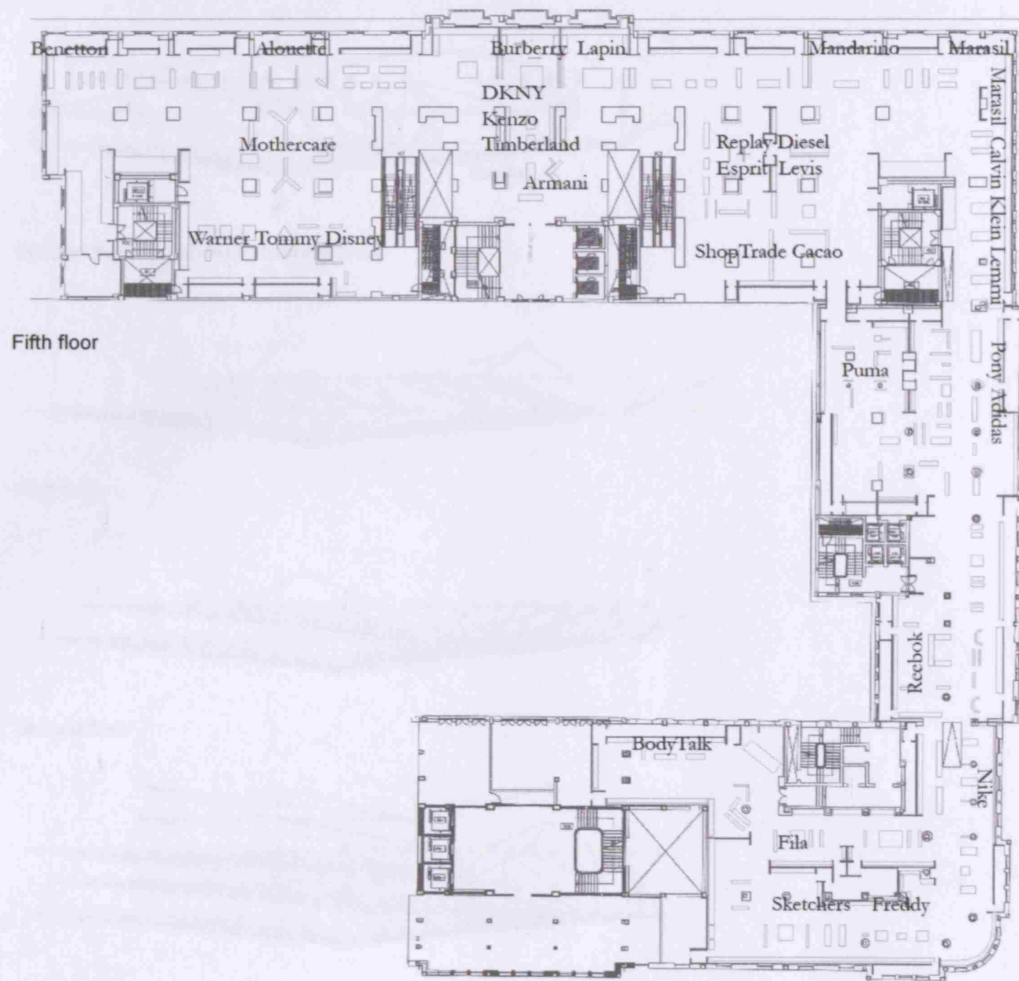
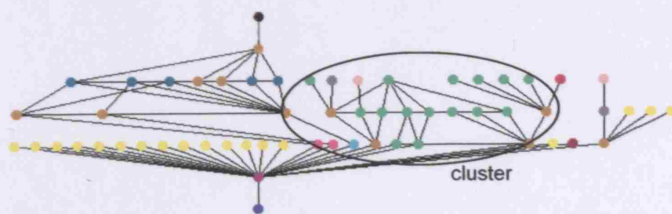
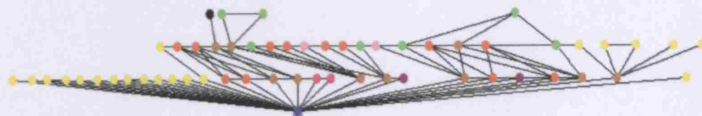


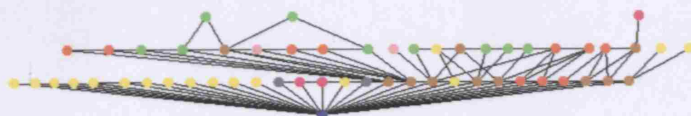
Fig. A5.1d Labels of merchandise in every floor



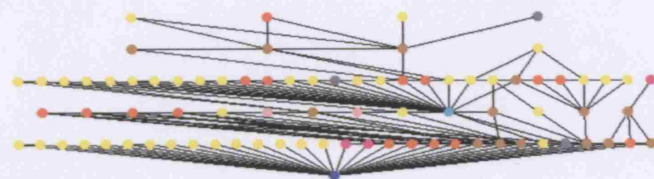
Ground floor Jgraph from main entrance



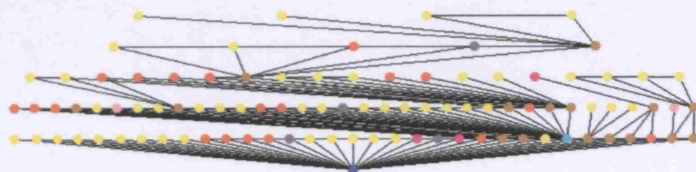
First floor



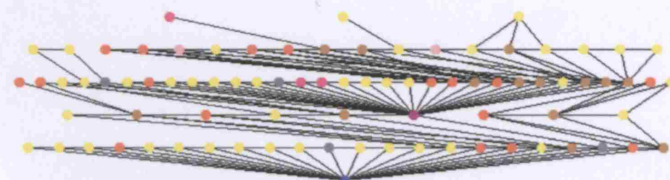
Second floor



Third floor



Fourth floor



Fifth floor ( secondary corridor root)

Fg. A5.2. Justified graphs

Type B  
Type A

